Digital SNOWTAM Trial

User's Guide & References Manual

Version 1.1

DOCUMENT CHANGE RECORD

Date	Description	Sections
06/01/2010	v1.0: first public version	All
28/02/2010	V1.1: updated after installation of version 1.0.6 of the application	3.4, 3.4.1 and 4.4

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1 Disclaimer

EUROCONTROL does not review, approve or take any obligation and/or responsibility with regard to the adequacy, reliability, accuracy, safety or conformance of the Digital SNOWTAM Trial Data with government standards or any government flight procedures.

The User shall inform EUROCONTROL (by contacting the trial helpdesk) of any inaccuracy or error in the Application or Data, which may affect the safety of air navigation.

The User ***shall not***:

(a) ***take any operational and/or safety-critical decision based on information displayed by the Application or on Data retrieved from the Trial***. All operational decisions shall continue to be based on official SNOWTAM messages received from the official sources to which the User has access;

(b) make available the information displayed by the Application to any third party not being part of the User's organisation;

(c) disclose, sell, assign, lease or otherwise provide the Data to any other parties, or

(b) commercially exploit or enable the commercial exploitation of the Application and/or the Data.

2 Accessing the application

The Digital SNOWTAM application is accessible via the Internet as a Web Application. You will therefore need a working Internet connexion in order to use it. On the other hand, as far as the technical requirements are fulfilled, no other third party software or components need to be installed on your computer.

2.1 Technical requirements

Internet Explorer 6/7 or Firefox 2 and greater is needed in order to use the web application.

All application screens have been developed to accommodate a minimum resolution of 1024x768. Note, however, that the application also supports higher screen resolutions to allow you to take full advantage of the graphical capabilities of the maps.

Memory requirements will vary greatly depending on your browser and configuration.

2.2 Accessing the application

The Digital SNOWTAM Application is accessible through EUROCONTROL's Portal at the following address:

http://extranet.eurocontrol.int

You can also use the following direct link: https://extranet.eurocontrol.int/http://prisme-websrv.hq.corp.eurocontrol.int/xsnowtam/

After login to the Eurocontrol Extranet, the following image will be displayed, either in a separate browser window or a separate browser tab page (depending on the browser version). Click on the image to launch the Trial Application.

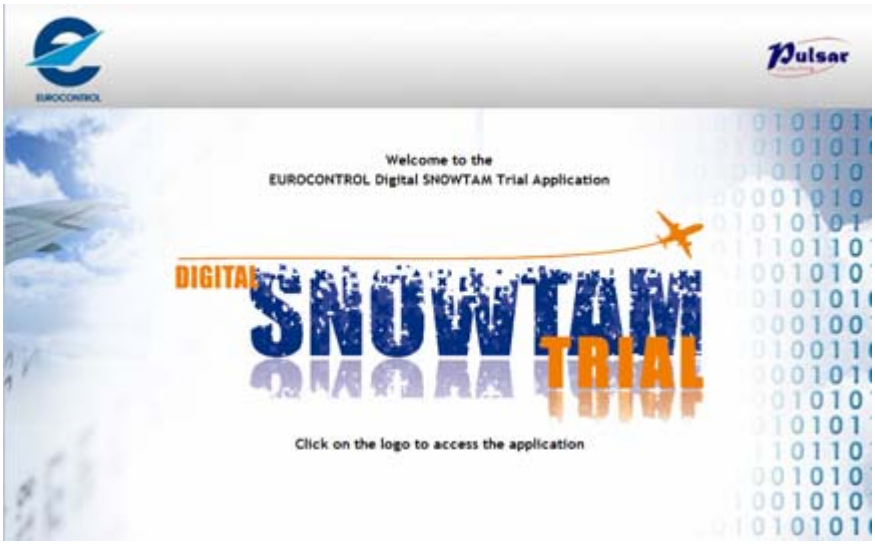


Figure 1 Home page

3 Data User Interface

3.1 Introduction

As Data User, you have access to the Data User Interface, which provides read access to textual and graphical representations of features and contaminations for all airports[1], world-wide.

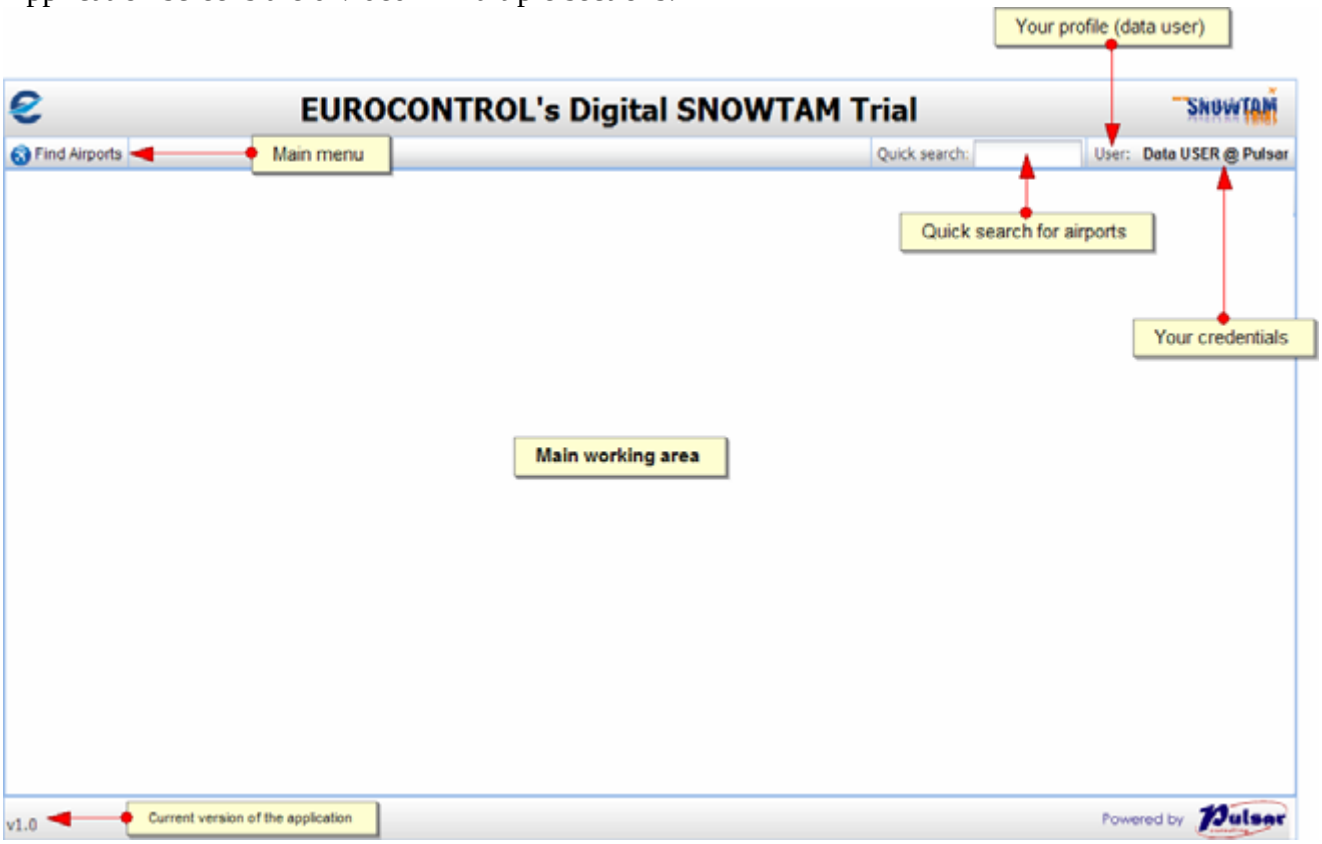
The typical usage flow of the Data User Interface is as follows:

1.	**Login** Enter your login name and password	
2.	**Find airports** Find Airport Page Quick Search Feature	**Airport Overview** An overview of the current SNOWTAM situation, (Focus on Europe)
3.	**View airport contaminations** View the airport, its associated features and contaminations on a map	

[1] More than 15000 airports are available through EAD export

3.2 Main screen layout

Application screens are divided in multiple sections:



3.2.1 Main menu

The Main menu is the heart of the navigation into the application. This is where you can choose the actions you want to perform within the application.

Each menu item can be clicked. This will load the requested page into the Main working area.

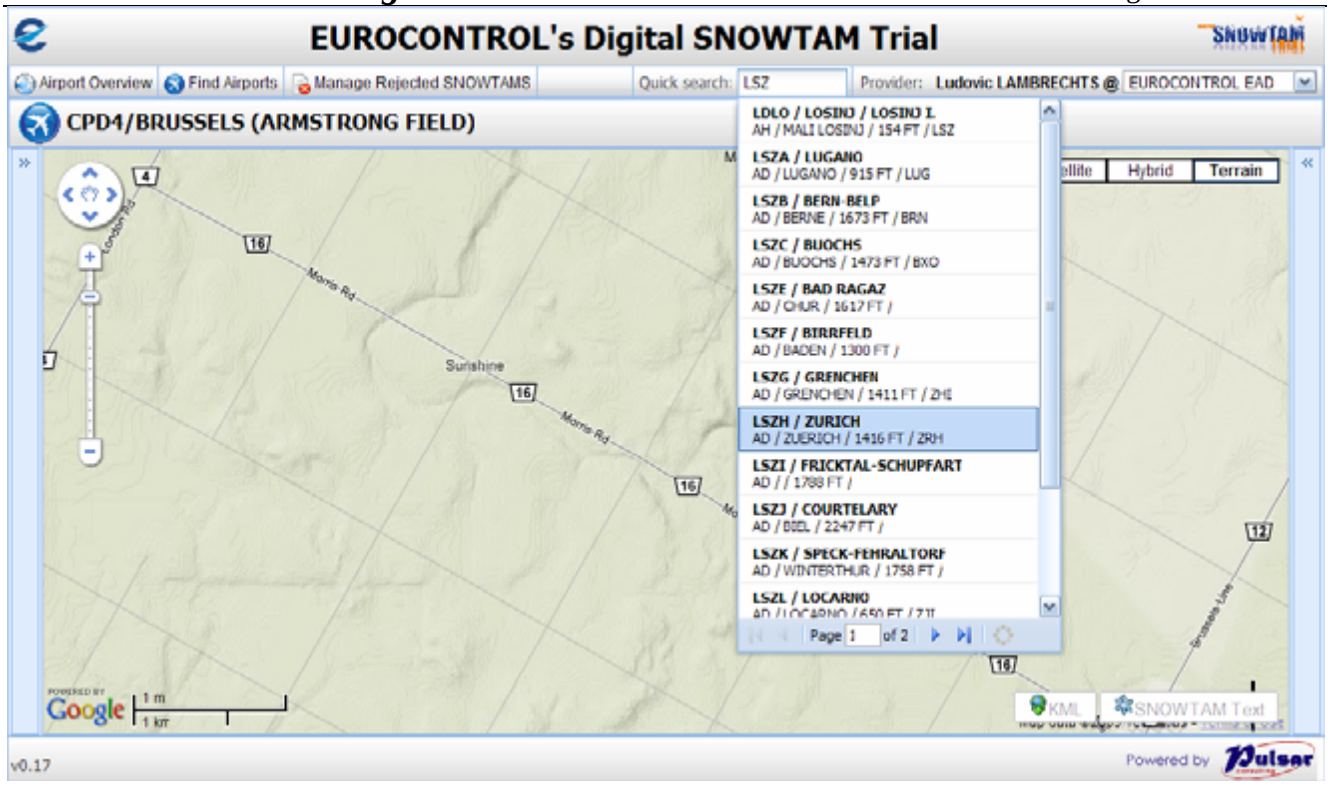
3.2.2 Main working area

The main working area is where the application pages are loaded.

3.2.3 Quick Search

The Quick Search feature is a convenient way to find airports very easily and quickly, based on ICAO/IATA designators and airport name. The selection of an airport will open the corresponding Airport Map page, which is used to display the contaminations.

Type any combination of characters to trigger the search (a minimum of 3 characters is required for the search to take place). The search results will contain all airports whose designators or name match the specified criterion:

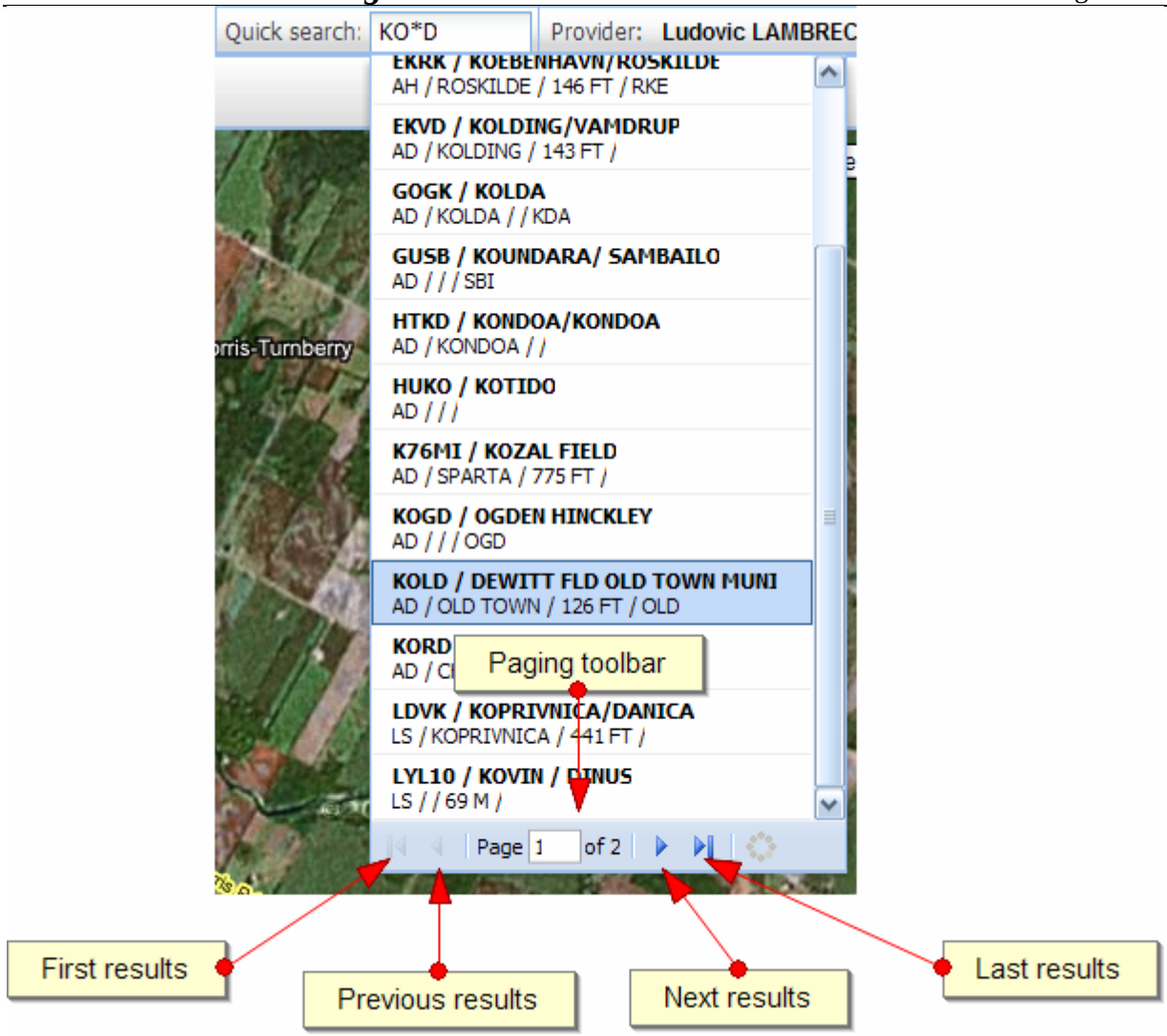

EUROCONTROL's Digital SNOWTAM Trial
Airport Overview
Find Airports
Manage Rejected SNOWTAMS
Quick search: LSZ
Provider: Ludovic LAMBRECHTS @ EUROCONTROL EAD
CPD4/BRUSSELS (ARMSTRONG FIELD)
LDLO / LOSINJ / LOSINJ L
AH / MALI LOSINJ / 154 FT / LSZ
LSZA / LUGANO
AD / LUGANO / 915 FT / LUG
LSZB / BERN-BELP
AD / BERNE / 1673 FT / BRN
LSZC / BUOCHS
AD / BUOCHS / 1473 FT / BXO
LSZE / BAD RAGAZ
AD / CHUR / 1617 FT /
LSZF / BIRRFELD
AD / BADEN / 1300 FT /
LSZG / GRENCHEN
AD / GRENCHEN / 1411 FT / ZHI
LSZH / ZURICH
AD / ZUERICH / 1416 FT / ZRH
LSZI / FRICKTAL-SCHUPFART
AD / / 1788 FT /
LSZJ / COURTELARY
AD / DIEL / 2247 FT /
LSZK / SPECK-FEHRALTORF
AD / WINTERTHUR / 1758 FT /
LSZL / LOCARNO
Page 1 of 2
Hybrid
Terrain
Sunshine
Morris Rd
KML
SNOWTAM Text
Google
v0.17
Powered by Pulsar

This search field also support the '*' or '%' wildcard characters (replacing any group of letters).

Note that the Quick Search feature doesn't support temporal queries and that the Airport Map Page will always be opened with the current date and time.

Once the search results are displayed, you can navigate through the airport list with the keyboard (with up/down arrows) and press the RETURN key to select the airport. You can also use the mouse and click on the desired airport.

If the search results contain too many airports, they will be divided in multiples "pages" that can be browsed with the help of the paging toolbar at the bottom of the list:


Quick search: KO*D
Provider: Ludovic LAMBREC
EKRK / KOEBENHAVN/ROSKILDE
AH / ROSKILDE / 146 FT / RKE
EKVD / KOLDING/VAMDRUP
AD / KOLDING / 143 FT /
GOGK / KOLDA
AD / KOLDA / / KDA
GUSB / KOUNDARA/ SAMBAILO
AD / / / SBI
HTKD / KONDOA/KONDOA
AD / KONDOA / /
HUKO / KOTIDO
AD / / /
K76MI / KOZAL FIELD
AD / SPARTA / 775 FT /
KOGD / OGDEN HINCKLEY
AD / / / OGD
KOLD / DEWITT FLD OLD TOWN MUNI
AD / OLD TOWN / 126 FT / OLD
KORD
AD / C
LDVK / KOPRIVNICA/DANICA
LS / KOPRIVNICA / 441 FT /
LYL10 / KOVIN / DINUS
LS / / 69 M /
Page 1 of 2
Paging toolbar
First results
Previous results
Next results
Last results

Example search results:

Criterion	Results
LS	No results (minimum 3 characters needed)
LS*	All airports where designator ICAO or designator IATA starts with 'LS' (no airport name starts with 'LS'
LSZ	All airports where designator ICAO or designator IATA contains 'LSZ' (no airport name contains with 'LSZ')
LSZH	**LSZH**/Zurich (Zurich Airport, Switzerland)
BRUSSEL	All airports whose name contains 'BRUSSEL' (as ICAO and IATA designators have a max length of 4 characters, they will never match any criterion with more than 4 characters so, in that case, only the airport name is taken into account. 'BRUSSEL' will match the following airports: • CPD4 / **BRUSSEL**S (ARMSTRONG FIELD) • EBBR / **BRUSSEL**S/**BRUSSEL**S-NATIONAL

	• EBUB / **BRUSSEL**S/ULB • EBUC / **BRUSSEL**S/UCL

3.3 Find airports

The "Find airports" screen, always accessible through the "Find Airports" menu item, allows you to find specific airports and show if a SNOWTAM is active for each retrieved airport at 'query time'.

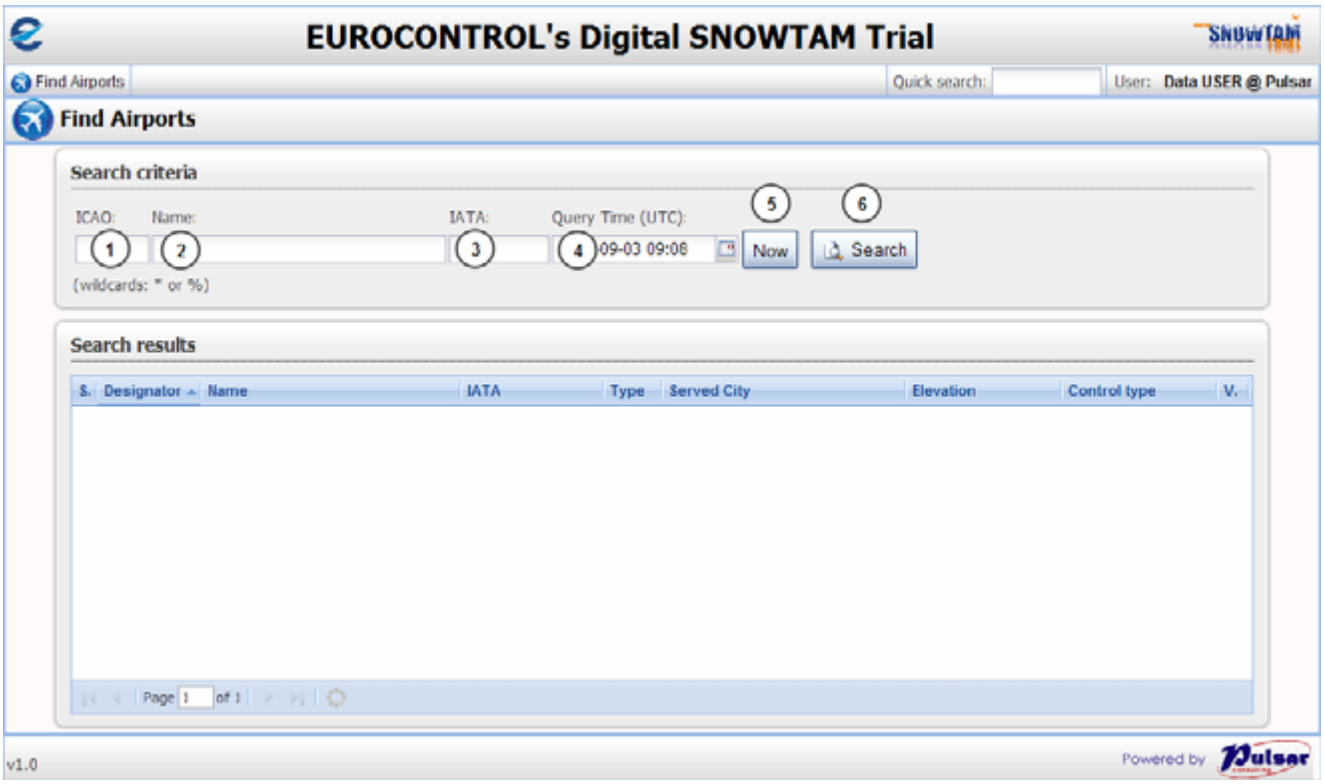


Figure 2 Find airport page for data users

3.3.1 Search criteria

Search for airports is allowed by:

- ICAO designator (1)
- Airport name (2)
- IATA designator (3)

All those search criteria accept the '*' and '%' wildcard characters (which stand for 'any group of character) both at the beginning and/or at the end of the criterion. Both characters have the same meaning and can be used indifferently, depending on your preference.

Examples:

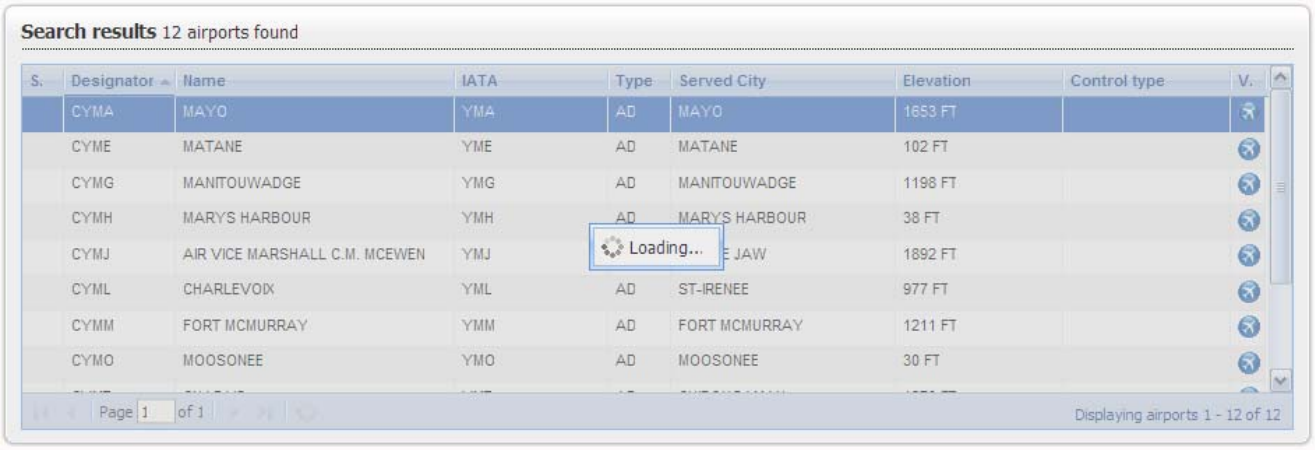
- 'EB*' in ICAO field will find all airports whose designator ICAO starts with 'EB' (i.e. EBBR, EBOS...)

- '*STOCK*' in Name field will retrieve all airports whose name contains the word 'STOCK' (i.e. STOCKHOLM ARLANDA, STOCKTON METROPOLITAN, ...)

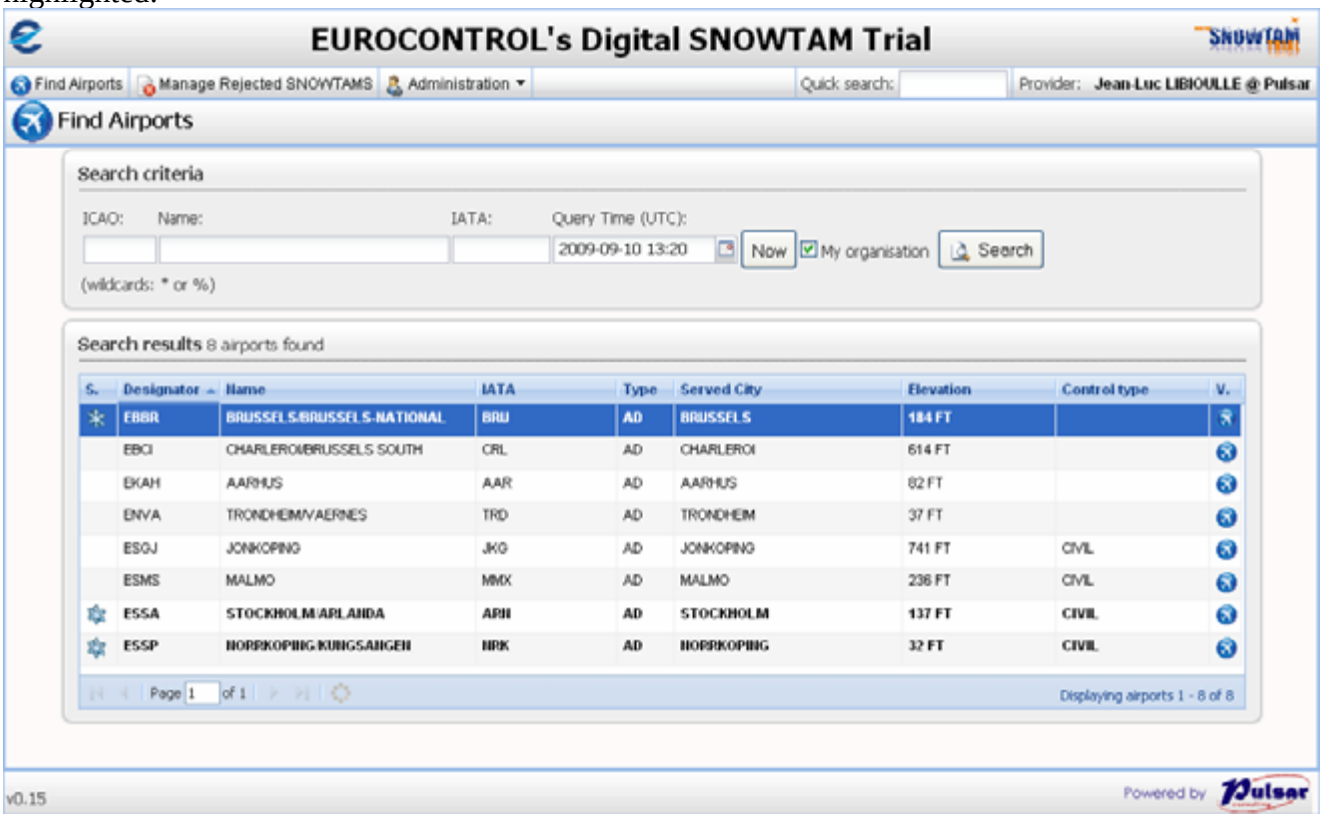
The "Query Time (UTC)" field (4) allows for historical searches. This field is used by the application to retrieve SNOWTAM information. It will also be used when displaying the Airport Map Page of the selected airport. By default, the field contains the current UTC date/time.

Clicking on the "Now" button (5) will reset the query time by retrieving the current UTC time from the server. Click on the "Search" button or press the "RETURN" key in any field to do the search.

While the server processes the request, the result grid becomes disabled and a loading mask is displayed:


Search results 12 airports found
S. Designator Name IATA Type Served City Elevation Control type V.
CYMA MAYO YMA AD MAYO 1653 FT
CYME MATANE YME AD MATANE 102 FT
CYMG MANITOUWADGE YMG AD MANITOUWADGE 1198 FT
CYMH MARYS HARBOUR YMH AD MARYS HARBOUR 38 FT
CYMJ AIR VICE MARSHALL C.M. MCEWEN YMJ Loading... JAW 1892 FT
CYML CHARLEVOIX YML AD ST-IRENEE 977 FT
CYMM FORT MCMURRAY YMM AD FORT MCMURRAY 1211 FT
CYMO MOOSONEE YMO AD MOOSONEE 30 FT
Page 1 of 1
Displaying airports 1 - 12 of 12

When the results are available, the grid becomes enabled again and the first row is selected / highlighted:


EUROCONTROL's Digital SNOWTAM Trial
Find Airports
Manage Rejected SNOWTAMS
Administration
Quick search:
Provider: Jean-Luc LIBIOULLE @ Pulsar
Find Airports
Search criteria
ICAO: Name: IATA: Query Time (UTC):
2009-09-10 13:20
Now
My organisation
Search
(wildcards: * or %)
Search results 8 airports found
S. Designator Name IATA Type Served City Elevation Control type V.
EBBR BRUSSELS/BRUSSELS-NATIONAL BRU AD BRUSSELS 184 FT
EBCI CHARLEROI/BRUSSELS SOUTH CRL AD CHARLEROI 614 FT
EKAH AARHUS AAR AD AARHUS 82 FT
ENVA TRONDHEIM/VAERNES TRD AD TRONDHEIM 37 FT
ESGJ JONKOPING JKG AD JONKOPING 741 FT CIVIL
ESMS MALMO MMX AD MALMO 236 FT CIVIL
ESSA STOCKHOLM/ARLANDA ARN AD STOCKHOLM 137 FT CIVIL
ESSP NORRKOPING/KUNGSANGEN NRK AD NORRKOPING 32 FT CIVIL
Page 1 of 1
Displaying airports 1 - 8 of 8
v0.15
Powered by Pulsar

The result table contains the list of airports/heliports matching the search criteria.

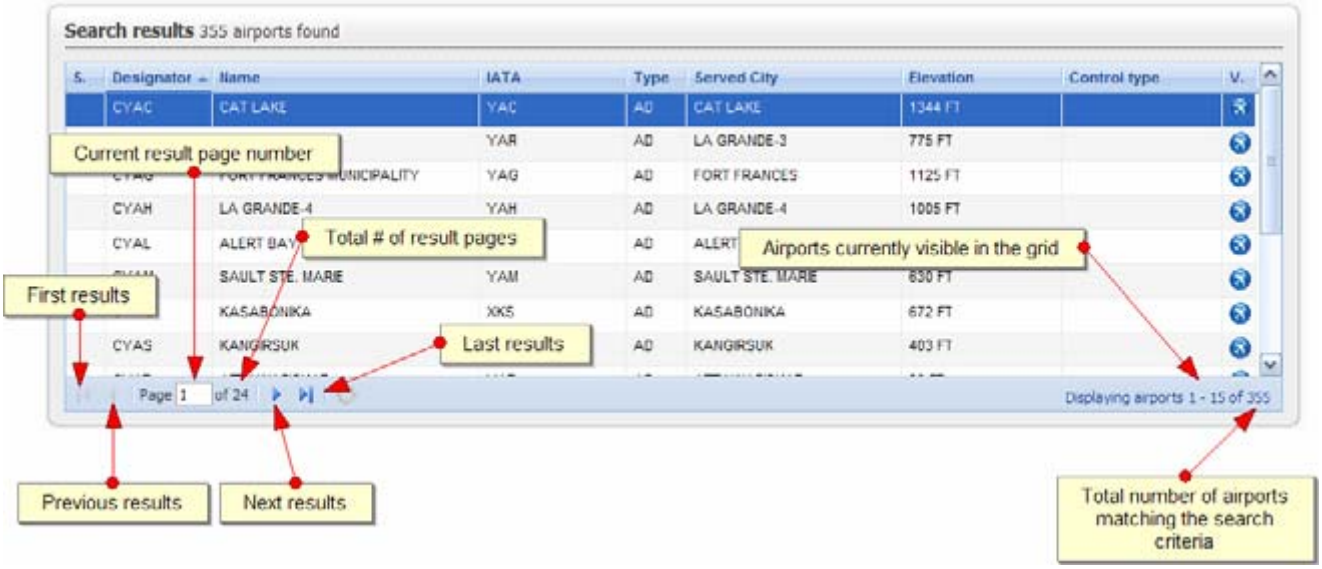
A row displayed in bold with a snowflake in the first column means that the corresponding airport/heliport has a valid/active SNOWTAM at the Query Time.

A single-click on the plane icon in the last column or double-click on a row will open the Airport Map Page for the corresponding airport.

The result grid also supports keyboard navigation so it is also possible to use the up/down arrow keys to navigate through the results and press the RETURN key to open the Airport Map Page of the highlighted airport/heliport.

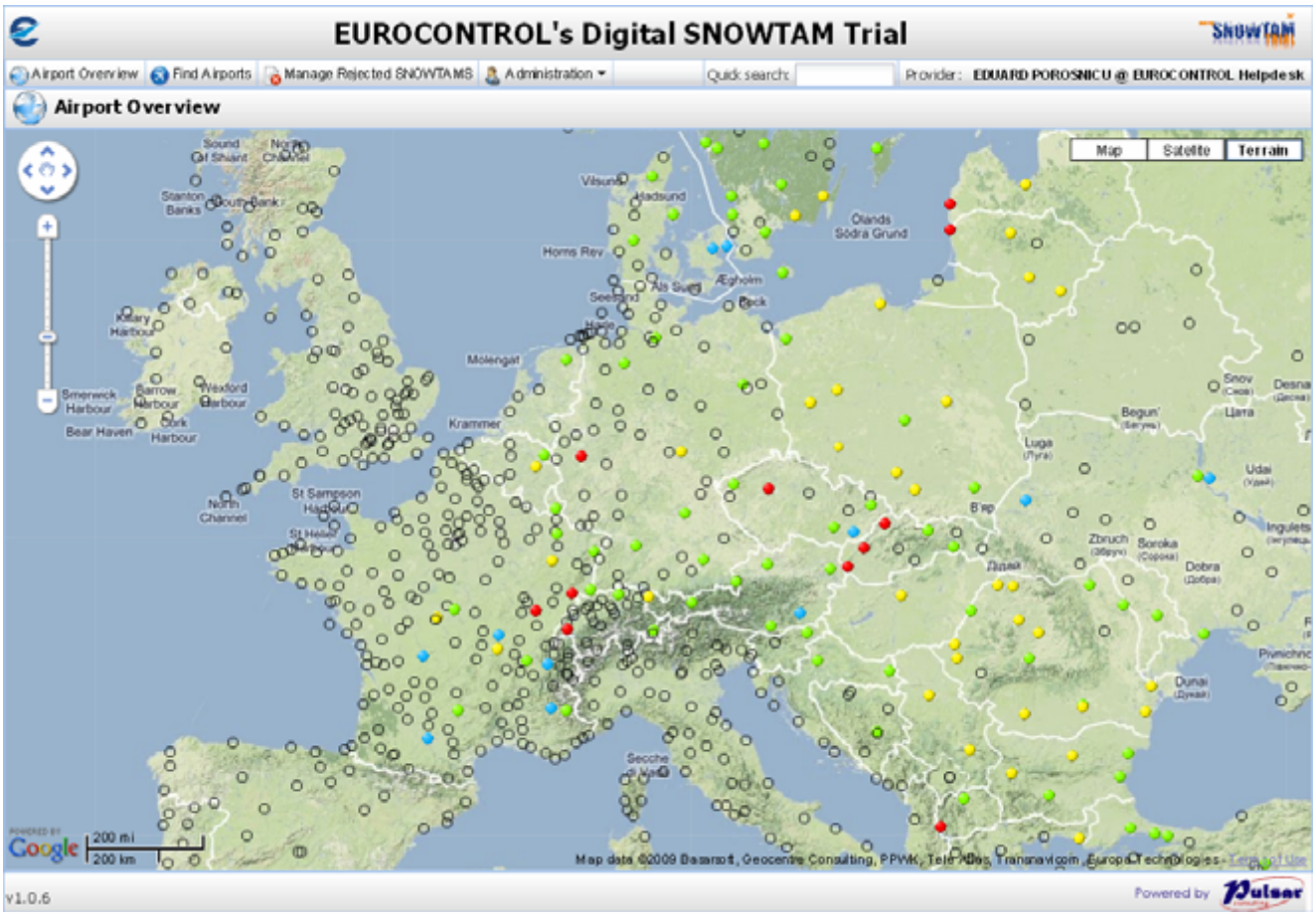
> ***TIP**: if you know the airport designator, type it in the designator field, press the 'return' key, wait for the grid to load, press the 'return' key again. This will load the Airport Map Page for the corresponding airport, without using the mouse and without complicated handling. I.e.: 'EBBR', [Return], [Return].*

If the query returns too many results, the list of airports/heliports will be paginated (split in multiple pages). Navigating through multiple result pages is possible with the help of the navigation toolbar at the bottom of the grid:


Search results 355 airports found
S.
Designator
Name
IATA
Type
Served City
Elevation
Control type
V.
CYAC CAT LAKE YAC AD CAT LAKE 1344 FT
YAR AD LA GRANDE-3 775 FT
YAG AD FORT FRANCES 1125 FT
CYAH LA GRANDE-4 YAH AD LA GRANDE-4 1005 FT
CYAL ALERT BAY AD ALERT
SAULT STE. MARIE YAM AD SAULT STE. MARIE 630 FT
KASABONIKA XK5 AD KASABONIKA 672 FT
CYAS KANGIRSUK AD KANGIRSUK 403 FT
Page 1 of 24
Displaying airports 1 - 15 of 355
Current result page number
Total # of result pages
Airports currently visible in the grid
First results
Last results
Previous results
Next results
Total number of airports matching the search criteria

3.4 Airport Overview

The "Airport Overview" screen shows a summary of the contamination status of a region for airports having an IATA code in the Trial Database. This selection criteria ("has IATA code" was chosen in order to de-clutter the image, as displaying all airports in the database could make the image very heavy, especially in the Western Europe area. ***It is important to remember that this page does not display the situation of all the airports available in the Trial database!***



The view is initially centred on Europe.

The displayed airports are refreshed every time the map is moved or zoomed.

> **Note:** some airports might seem to be missing in the bottom of the map, especially at low zoom levels. This is due to the fact that our geographic queries take the earth curvature into account, but Google Maps doesn't (coordinates are projected).

3.4.1 Airport contamination status icons

A contamination status icon is associated to every airport. The table below illustrates the possible icon colours and their respective meaning:

Icon	Meaning
	No contamination information on the airport (no SNOWTAM received and successfully parsed by the application)
	There exists contamination information but the friction coefficient is "GOOD" or between 0.40-0.99 for all runways.
	There exists contamination information and the friction coefficient is "POOR", below 0.25 or "UNRELIABLE" for at least one of the runways
	All other situations including airport/heliport closed
	The latest SNOWTAM received for this airport could not be parsed because of syntax errors and it is available through the Manage Rejected SNOWTAM menu.

Possible actions on the map:

- Change the map type using the map type selector.
- Zoom in, zoom out.
- Drag the map (move it using the mouse to show a different zone).
- "Hover" the cursor over a bullet to see the corresponding airport designator.
- Click on a bullet to open the airport page of the corresponding airport/heliport.

Performance issue:
There are more than 15000 airports/heliports in the database.

The number of bullets to calculate and display in this screen depends on the size of the geographical area to display, hence to the zoom level.

In addition, in some regions of the world, the high density of airports/heliports at some high altitude (zoom level) might make the map look cluttered. The bullets can be so close of each others that it's almost impossible to click on the right one.

For these reasons, only airports/heliports that have an IATA code in the Trial database are displayed.

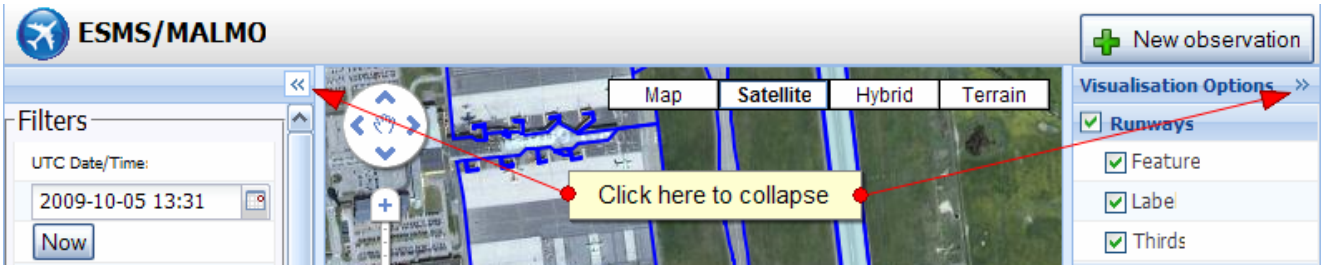
3.5 Airport Map Page

The Airport Map is the second main screen of the application. It offers both textual and graphical view of airport features and contaminations.

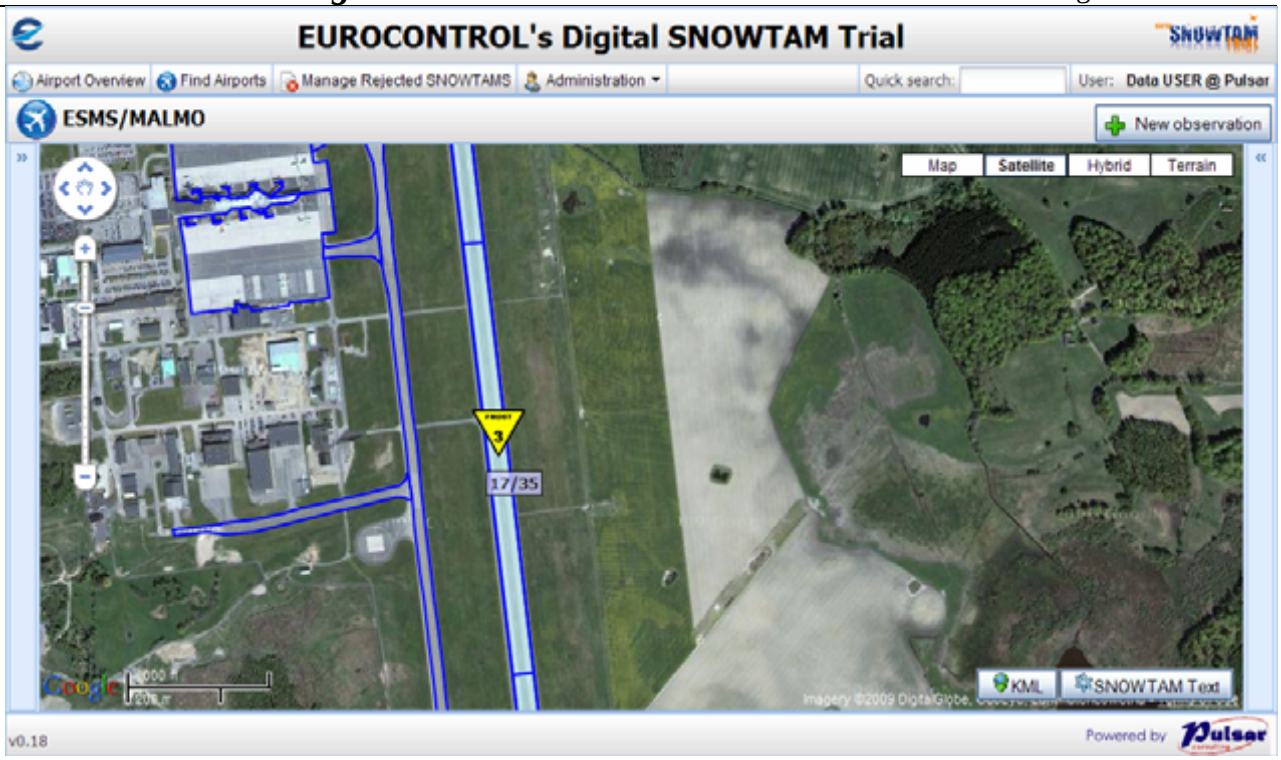
The screen is divided into four areas:

- Filters
- Airport features
- Airport map
- Visualisation options

The left and right columns (the "filters/airport features" and "visualization options" areas can be almost completely hidden to give more space to the map. This may come in handy with smaller screen resolutions.



Once collapsed, the panels become only a narrow vertical bar:



Click on the bar itself to reopen the panels temporarily (the panel will collapse back as soon as the mouse cursor moves over the map) or click on the little arrows on top of the bars to expand the panels normally.

Note that each panel can be collapsed and/or expanded individually.

3.5.1 Filters

Filters allow you to reload the map with a different query time or a different dataset. Datasets are further explained in section "0. EUROCONTROL does not review, approve or take any obligation and/or responsibility with regard to the adequacy, reliability, accuracy, safety or conformance of the Digital SNOWTAM Trial Data with government standards or any government flight procedures.

The User shall inform EUROCONTROL (by contacting the trial helpdesk) of any inaccuracy or error in the Application or Data, which may affect the safety of air navigation.

The User ***shall not***:

(d) ***take any operational and/or safety-critical decision based on information displayed by the Application or on Data retrieved from the Trial***. All operational decisions shall continue to be based on official SNOWTAM messages received from the official sources to which the User has access;

(e) make available the information displayed by the Application to any third party not being part of the User's organisation;

(f) disclose, sell, assign, lease or otherwise provide the Data to any other parties, or

(c) commercially exploit or enable the commercial exploitation of the Application and/or the Data.

" on page 5.

The first time the page is loaded, the dataset is selected using the following criterion:

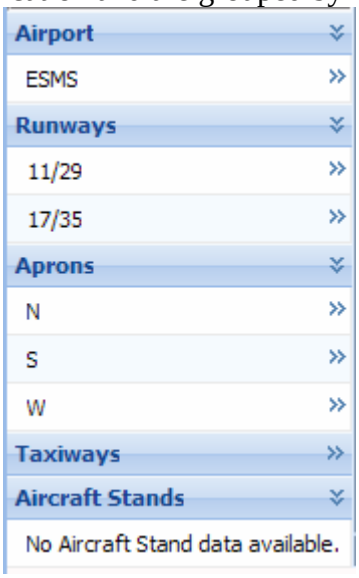
- 'Local' will be selected if the airport has local contaminations (encoded by a local authority)
- 'EAD' will be selected otherwise

If you select a different dataset, this dataset will be used once you apply the filter and the page is reloaded.

By default the UTC Date/time uses the value selected in the "Find airports" page or the current UTC date/time if you used the Quick Search feature or the Airport Overview page.

3.5.2 Airport features

The airport features area is a textual list of available features for the selected airport. Features are displayed by their designator / identification and are grouped by feature type:



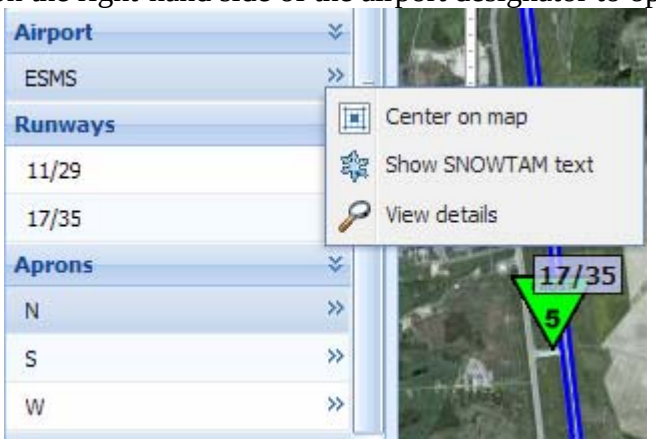
Only the features available through EAD can be displayed here.

Feature groups (Airport, Runways, Aprons...) may be expanded or collapsed individually by clicking on the arrows on the right.

Click on the arrows on the right-hand side of feature designators to open a contextual menu which will allow you to interact with the corresponding feature (described below).

3.5.2.1 Airport feature

Click on the arrows icon on the right-hand side of the airport designator to open its contextual menu.



From the airport contextual menu you can:

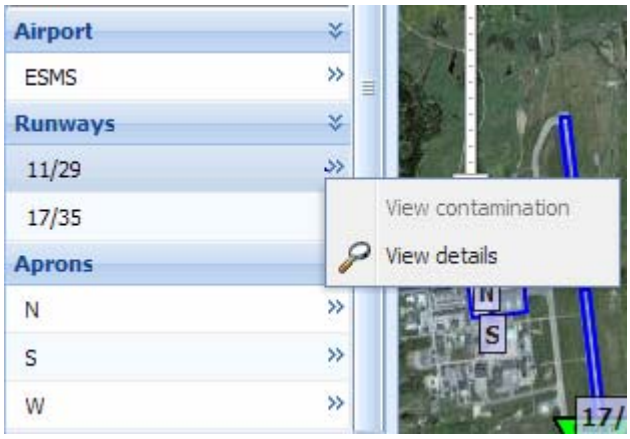
- Centre the map on the airport reference point
- Show the current SNOWTAM text (if available)
- View the currently active baseline details about the airport (this will open in a new popup)

Important notice: Currently, global information/contaminations about the whole airport are only available through the "View SNOWTAM text" feature. This includes the content of item T (plain text remark). See chapter "3.5.5 Viewing SNOWTAM Text" page 25 for more information.

3.5.2.2 Other feature types

If the feature has a geometry that can be displayed, clicking on the designator will centre the map on the corresponding feature.

Click on the arrows icon on the right-hand side of the feature designator to open its contextual menu.



From the airport contextual menu you can:

- Show the current contamination (if any)
- View the currently active baseline details about the feature (this will open in a new popup)

When contaminations affect a specific feature, the corresponding contamination icon is also visible nearby the feature designator:

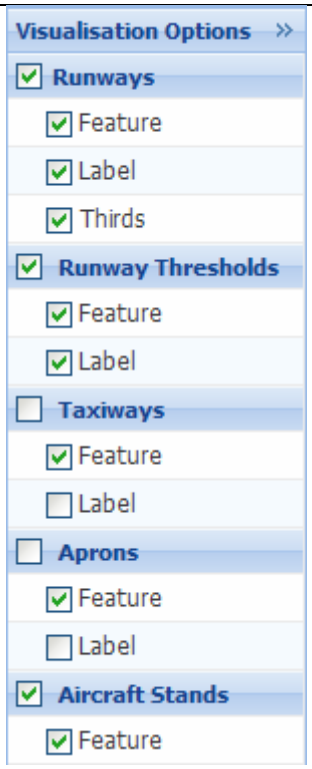
3.5.3 Airport Map

The Airport Map is the central piece of the application. It allows graphical visualization of airport features and contaminations (when available).

For more details about how features and contaminations are displayed on the map, please refer to chapter 5 "Symbols and Graphical Representations" on page 33.

3.5.4 Visualization Options

For some airports with a lot of feature geometries, the map can quickly become overloaded. The "Visualisation Options" panel gives you full control over what is visible on the map.



By checking/unchecking the boxes, you can show/hide the corresponding feature geometries and/or labels. The box nearby the feature type (Runways....) allow you to completely show/hide specific features in one click.

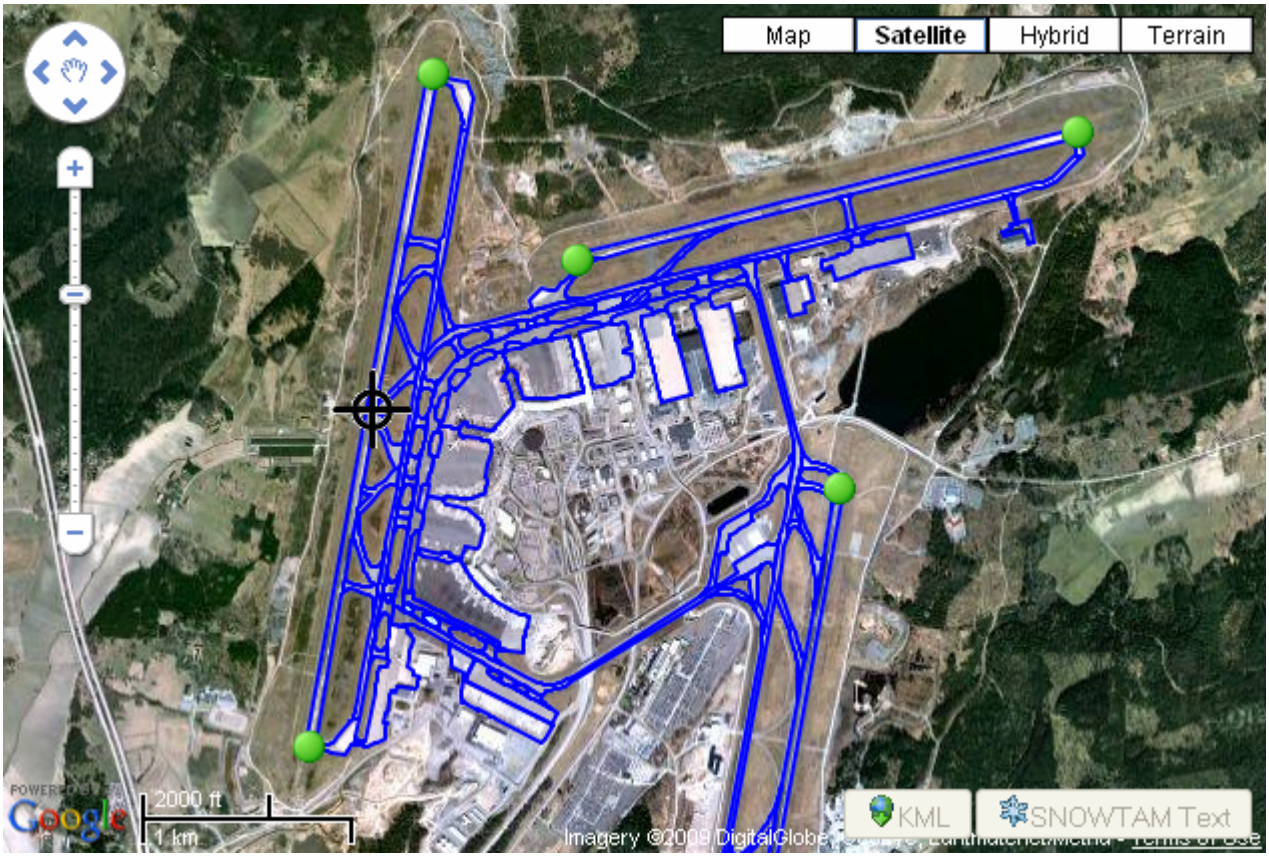


Figure 3 Satellite view of airport map

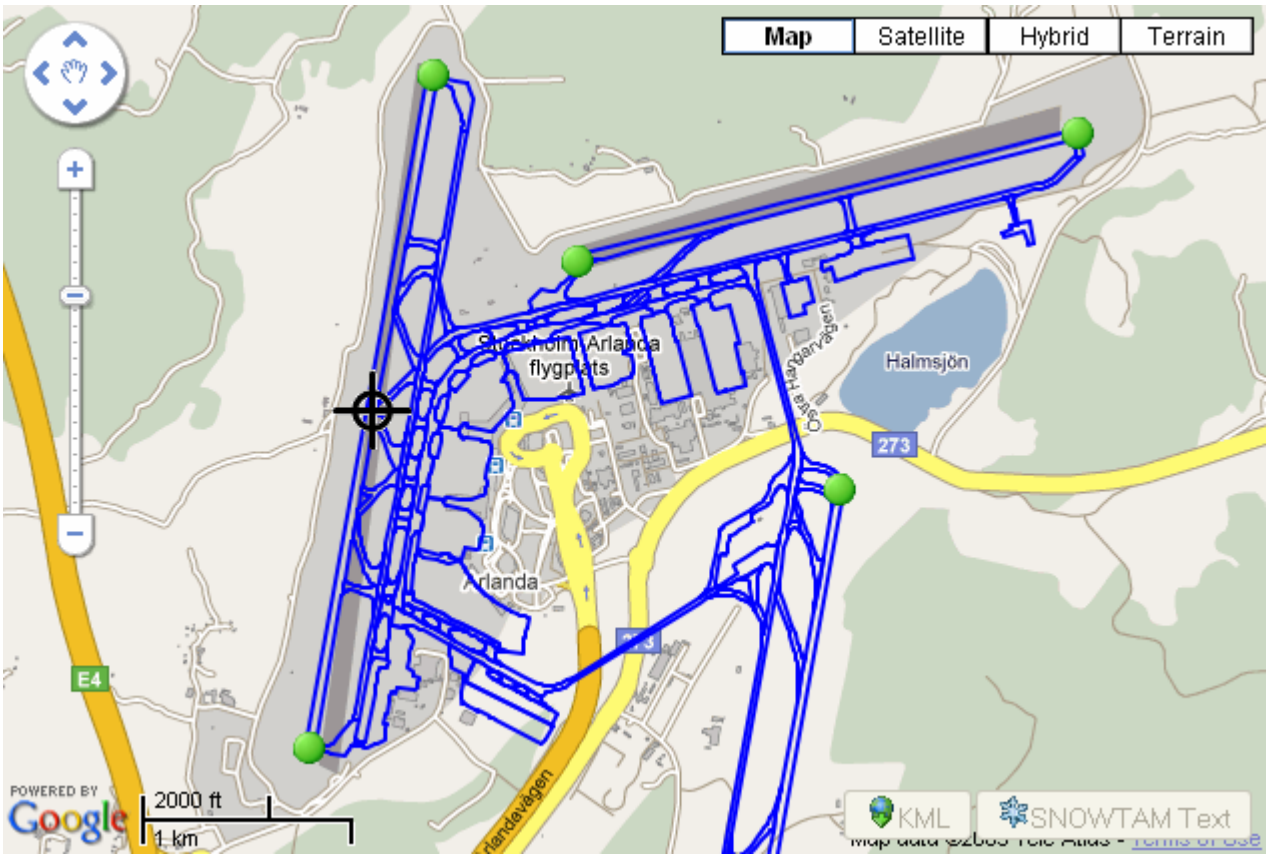


Figure 4 Map view of airport map

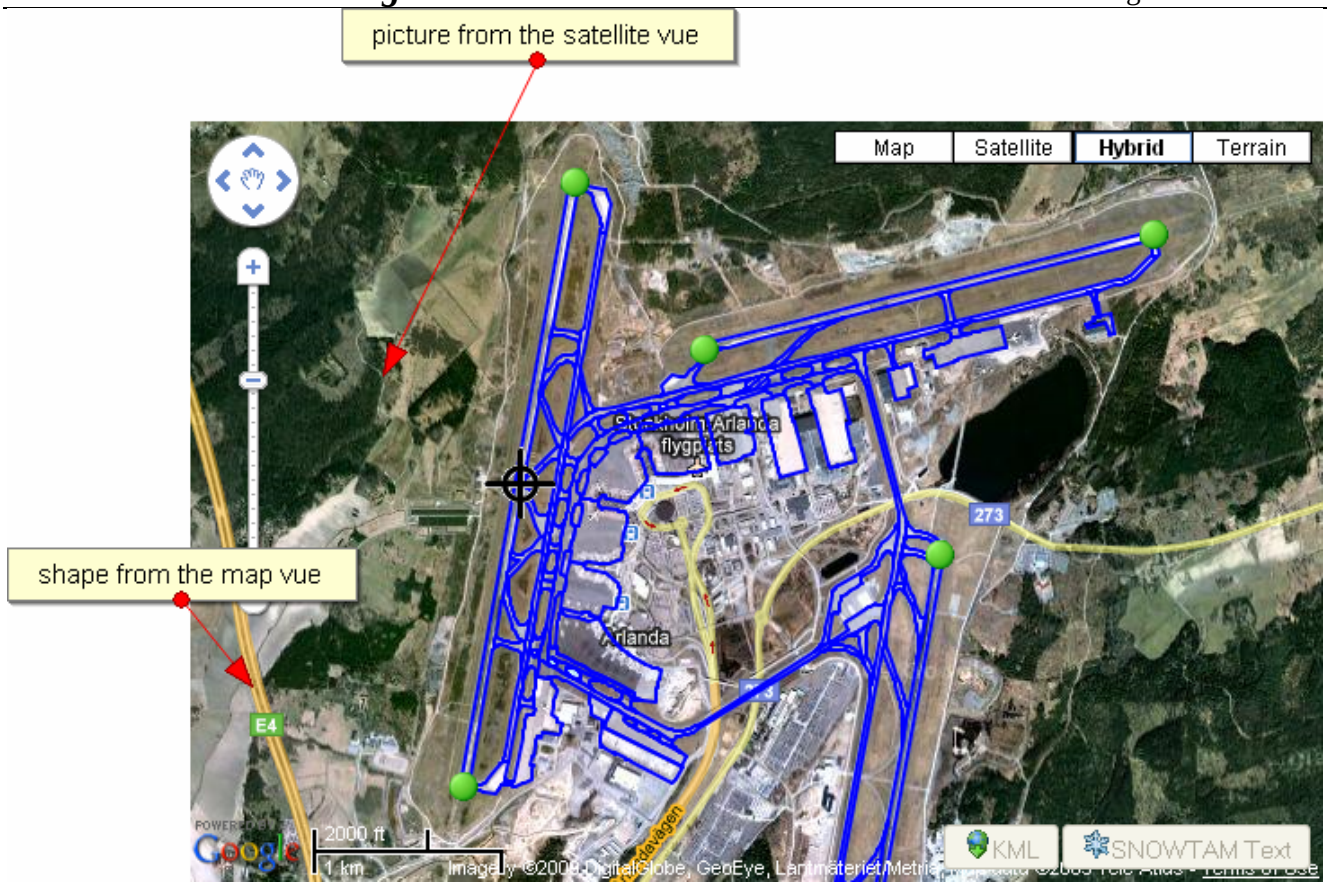


Figure 5 Hybrid view of airport map

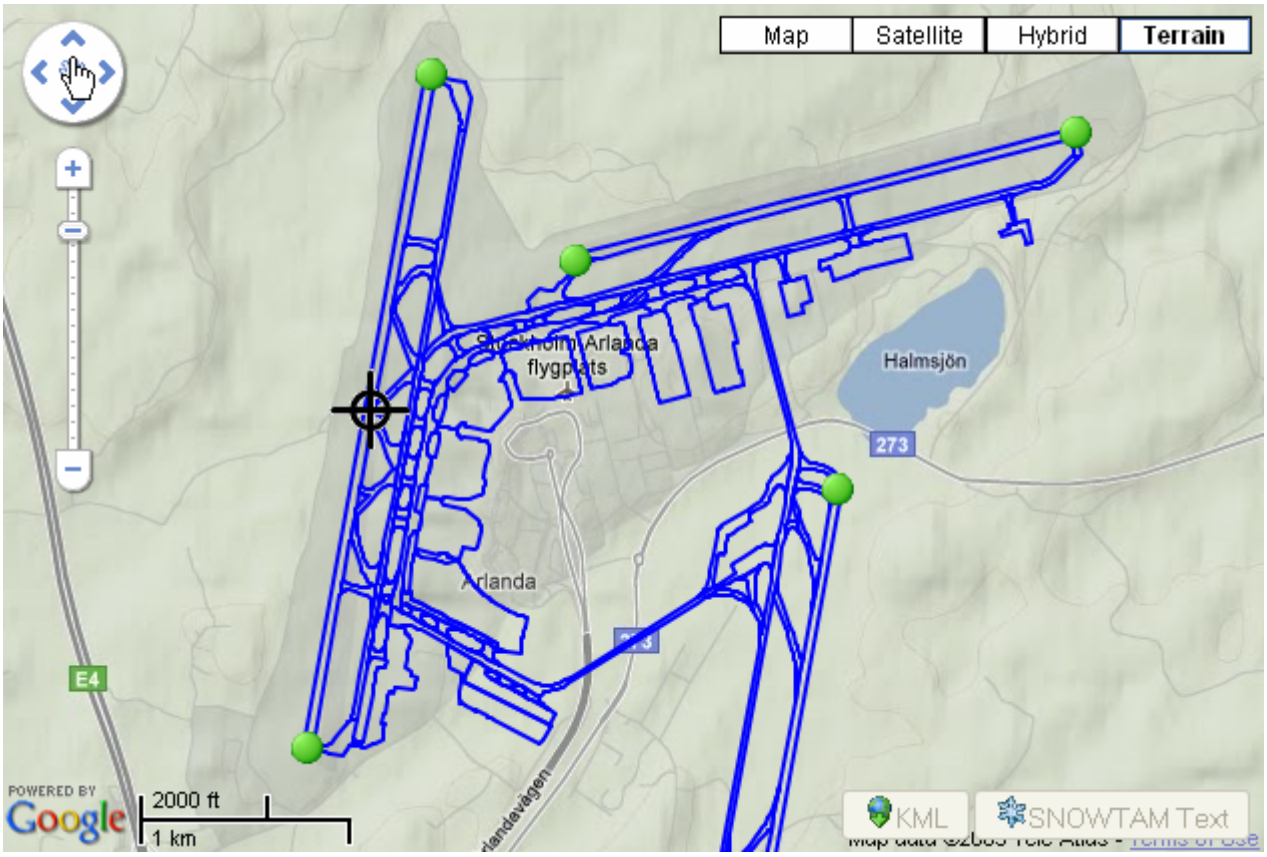


Figure 6 Terrain view of airport map

3.5.5 Viewing SNOWTAM Text

When a SNOWTAM message or contaminations are available for the selected airport, the "SNOWTAM Text" button in the bottom-right corner of the map will be enabled.

Click on this button to open a dialog showing

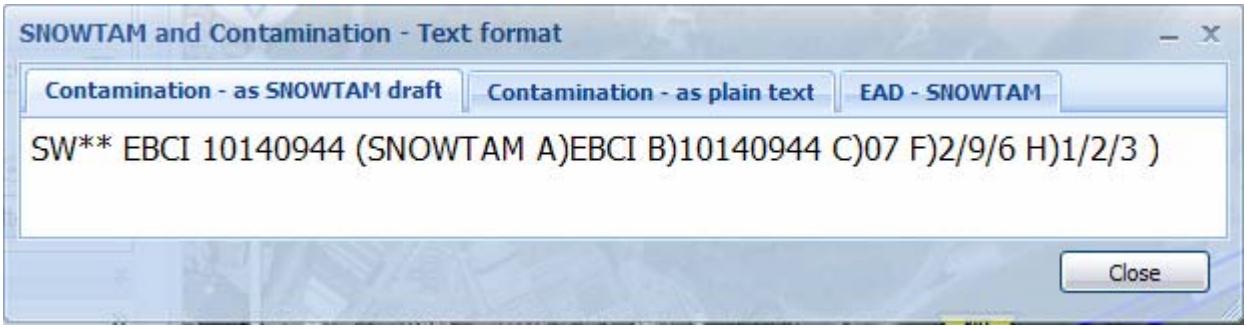
- The Original EAD SNOWTAM (as received from EAD) if applicable
- Contaminations as plain text
- Contaminations as SNOWTAM draft (as generated by the application)

Currently, airport wide contaminations can only be viewed in the "item T)" and "global remarks" fields. This is also the case for information contained in an original SNOWTAM message that couldn't be attached to a particular feature. This fact is emphasized in the screenshots below.

3.5.5.1 SNOWTAM Draft

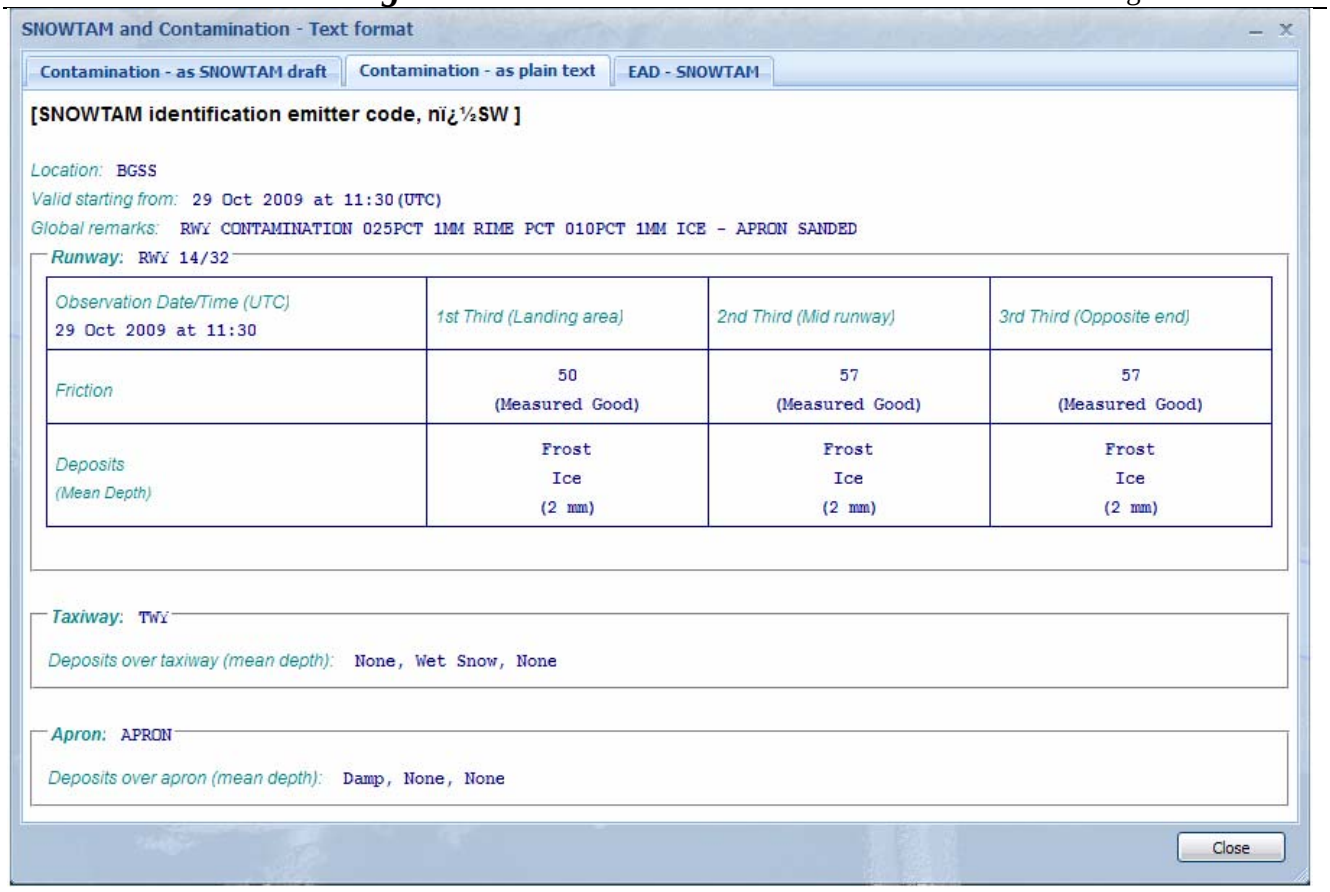
The SNOWTAM Draft is generated by the application based on the contaminations provided by Data Providers and on the parsing and translation of official ICAO SNOWTAM messages coming from EAD.

The SNOWTAM Draft is ICAO compliant.


SNOWTAM and Contamination - Text format
Contamination - as SNOWTAM draft
Contamination - as plain text
EAD - SNOWTAM
SW** EBCI 10140944 (SNOWTAM A)EBCI B)10140944 C)07 F)2/9/6 H)1/2/3)
Close

3.5.5.2 SNOWTAM plain text

The "Plain Text SNOWTAM" translates the contamination into a formatted human readable plain text message.



Note: the fact that the apron was sanded was provided in item T) of the original SNOWTAM:

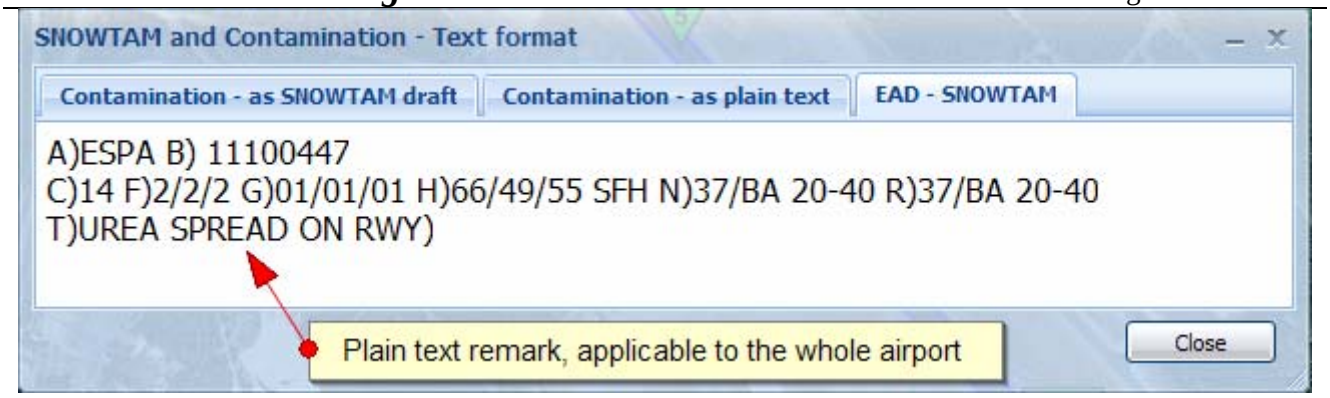
```
A)BGSS B)10291130
C)14 F)37/37/37 G)2/2/2 H)50/57/57 TAP
N)050PCT 2MM TYP37 - BA 65 TAP
R)100PCT 3MM TYP7 PCT 100PCT 1MM TYP3 - BA 40 TAP
T)RWY CONTAMINATION 025PCT 1MM RIME PCT 010PCT 1MM ICE - APRON SANDED)
```

The information could therefore not be processed by the application and has been left unchanged and attached to the global remarks.

3.5.5.3 EAD – SNOWTAM

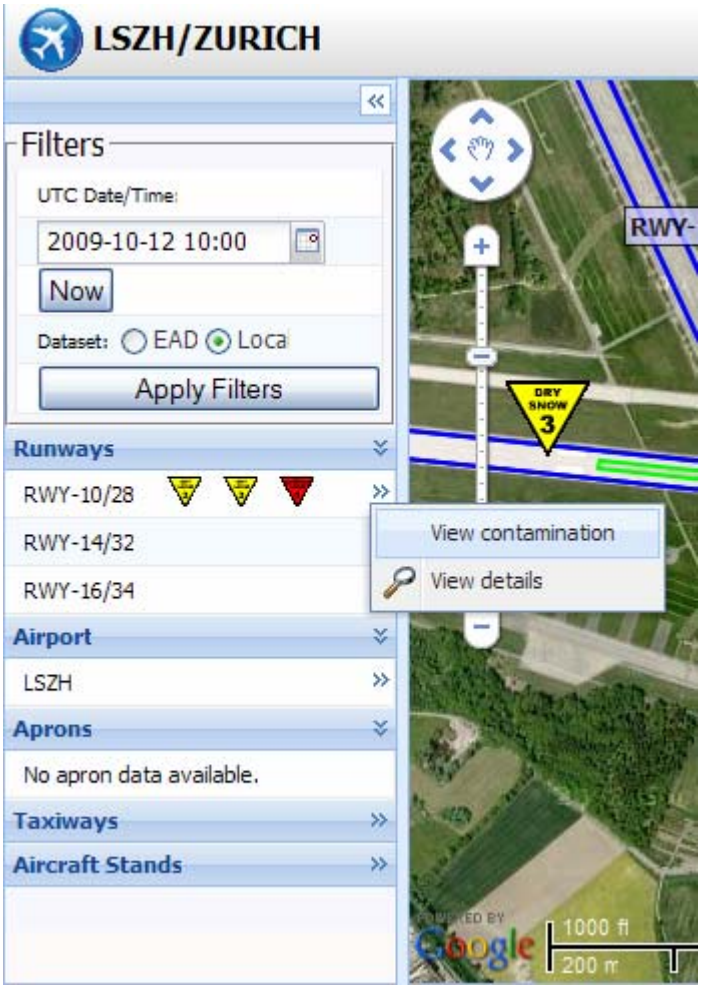
The "EAD – SNOWTAM" tab contains the original SNOWTAM message as it was received from EAD, without any interpretation or correction.

If the SNOWTAM was created within the application (so didn't come from EAD), the tab will only contain the 'NIL' value.


SNOWTAM and Contamination - Text format
Contamination - as SNOWTAM draft
Contamination - as plain text
EAD - SNOWTAM
A)ESPA B) 11100447
C)14 F)2/2/2 G)01/01/01 H)66/49/55 SFH N)37/BA 20-40 R)37/BA 20-40
T)UREA SPREAD ON RWY)
Plain text remark, applicable to the whole airport
Close

3.6 Viewing contaminations

When contaminations are available, they are accessible through the textual feature list on the right, by clicking on the 'View contamination' in the corresponding menu:



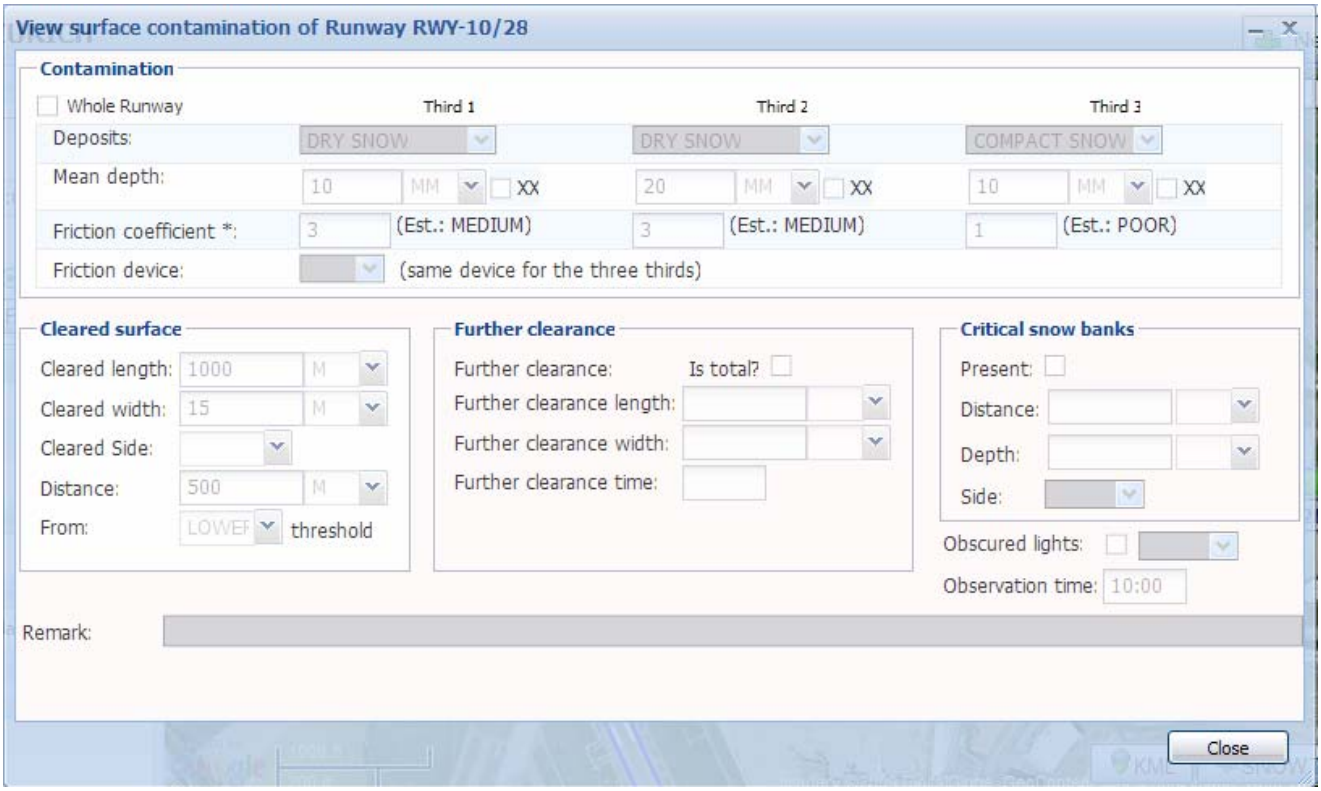
This will open a new dialog containing detailed information about the conditions on the selected feature. The contamination information is new read-only (it cannot be edited).

The dialogs differ depending on the specificities of each feature type and are described in the following chapters.

Remember: Currently, global information about the whole airport is only available through the "SNOWTAM Text" feature. This includes the content item T (plain text remark).

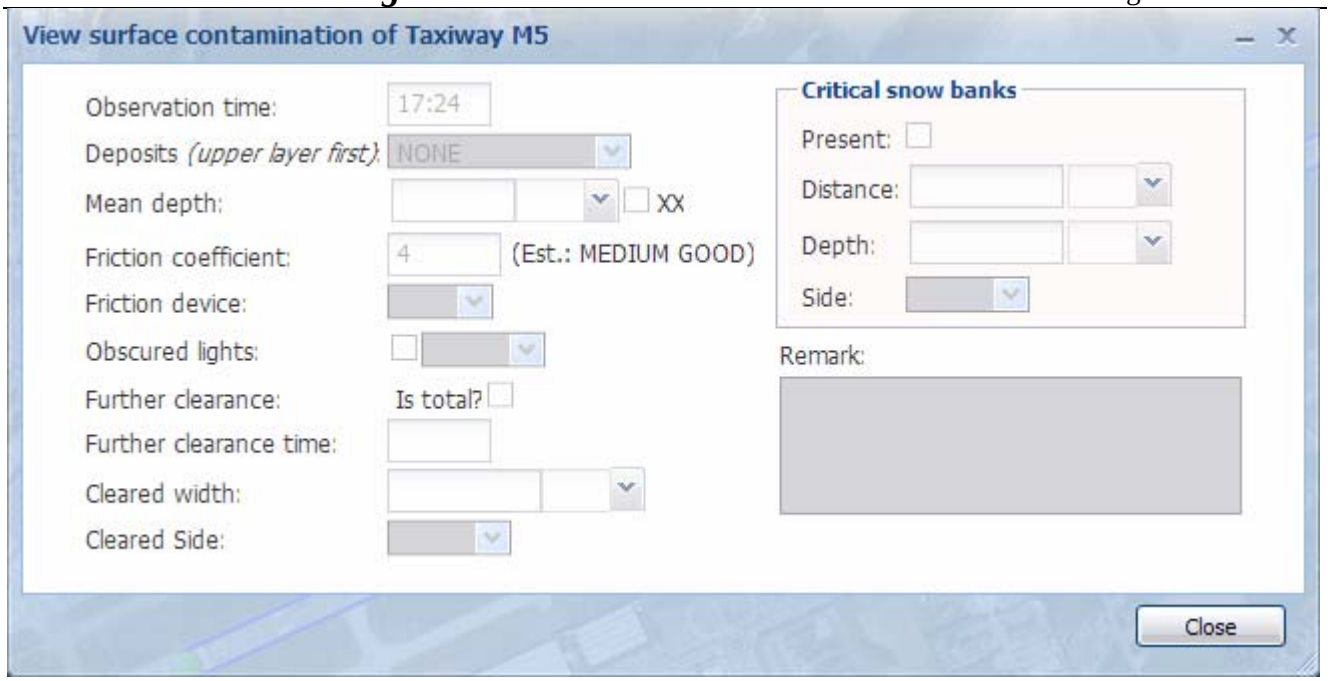
3.7 Viewing Runway Contaminations

Runway contaminations are always displayed by thirds.



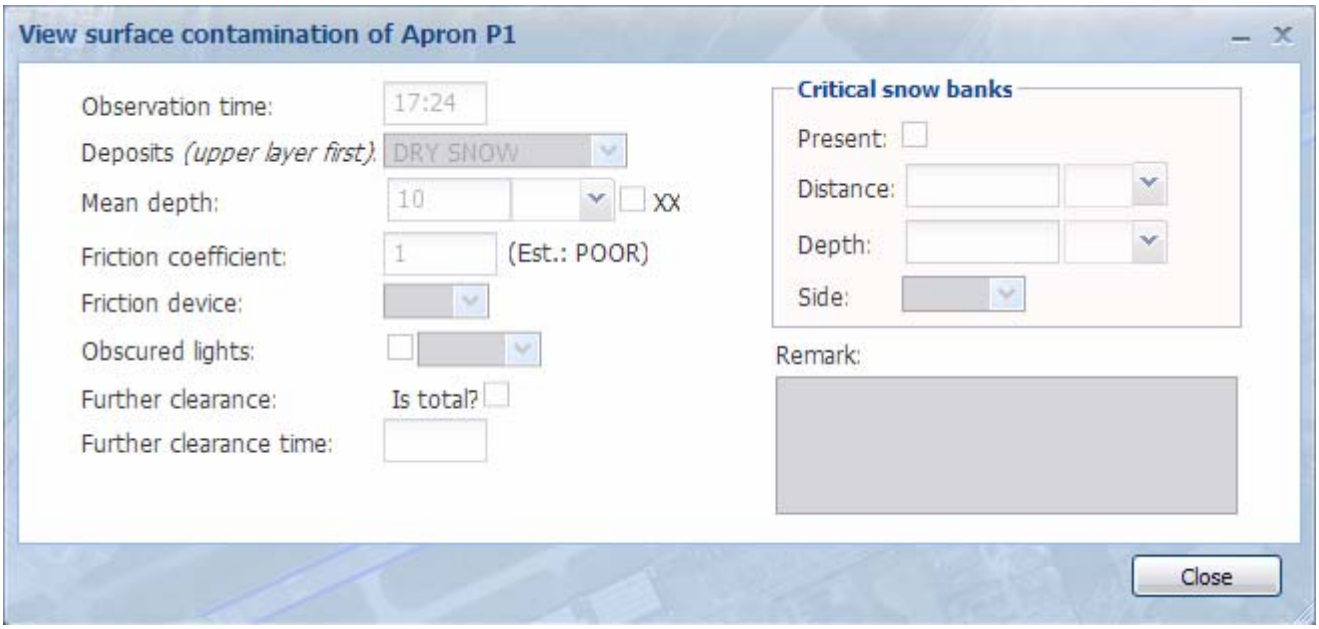
3.8 Viewing Taxiway Contaminations

Detailed information about taxiway contaminations is always accessible through the feature list on the right, by clicking on the 'View contamination' in the corresponding menu:



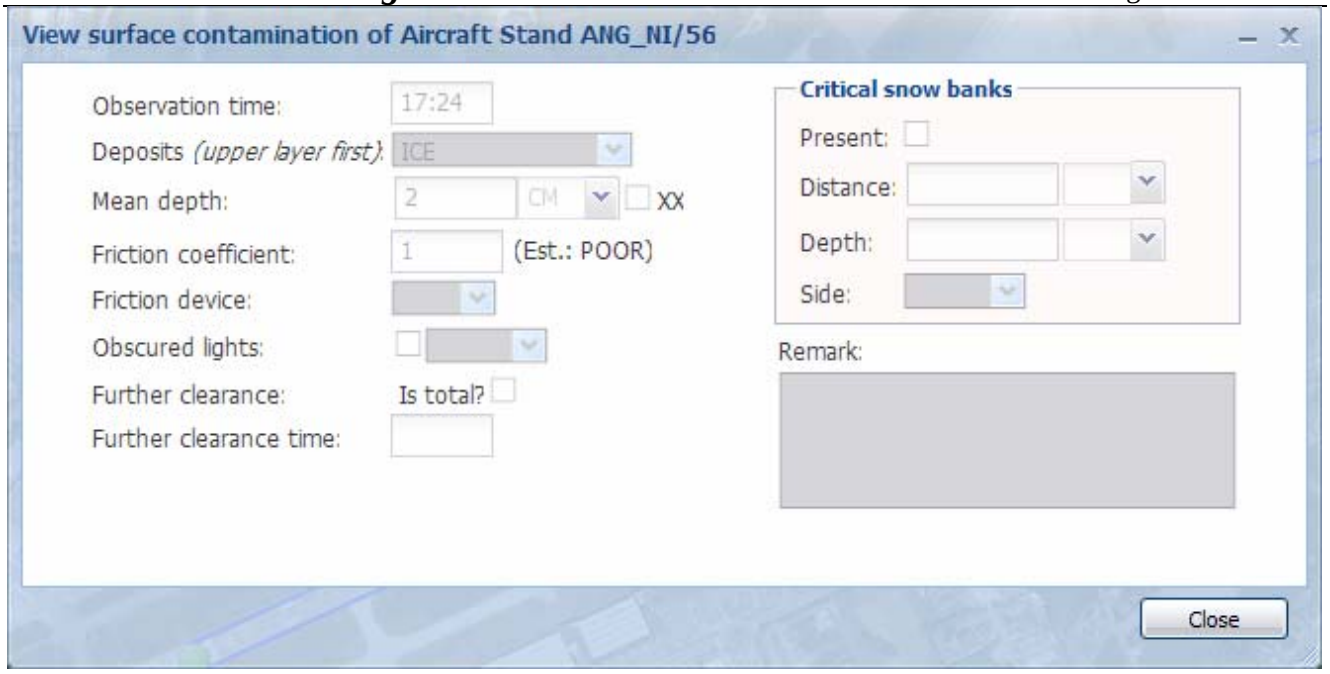
3.9 Viewing Apron Contaminations

Detailed information about apron contaminations is always accessible through the feature list on the right, by clicking on the 'View contamination' in the corresponding menu:



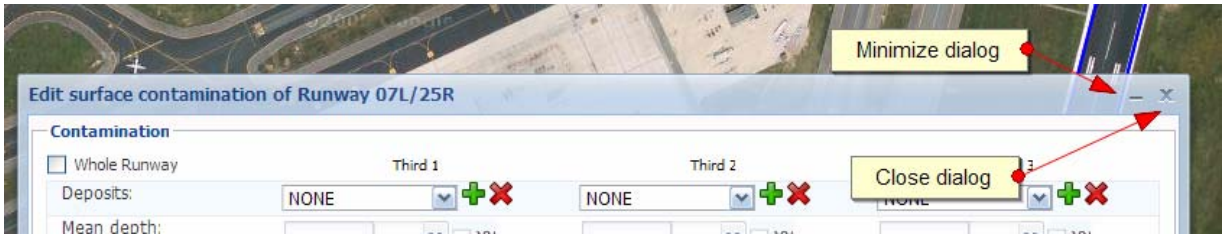
3.10 Viewing Aircraft Stand contaminations

Detailed information about aircraft stand contaminations is always accessible through the feature list on the right, by clicking on the 'View contamination' in the corresponding menu:



3.11 Using the contamination dialogs

Tip: The dialogs can be closed by clicking on the 'Close' button or on the "X" symbol in the upper right corner. The "_" symbol nearby can be used to show/hide the dialog temporarily (this can be used to see the map, while keeping the dialog at hand). A double-click on the dialog title has the same effect.



3.12 Visualization Options

The "Visualization Options" panel is located on the right of the Airport Map view. The panel allows for fine tuning which visual information is overlaid on the airport map. This is especially useful when the airport map is cluttered as shown below.

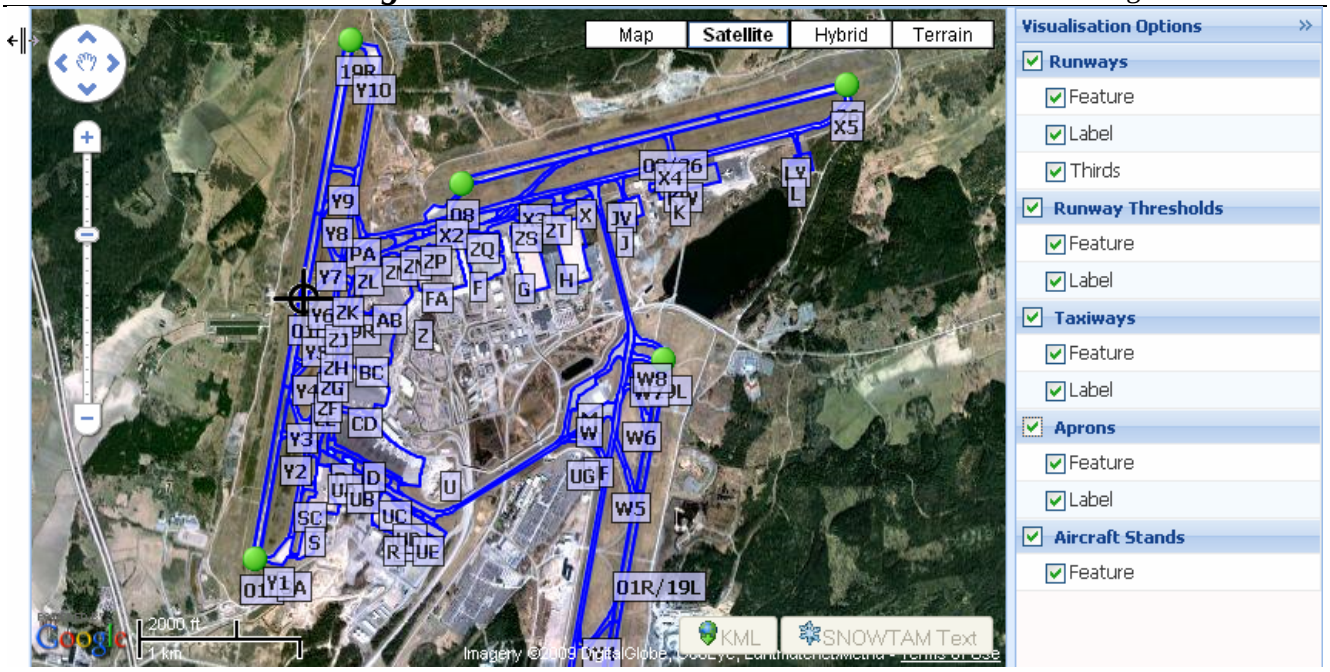
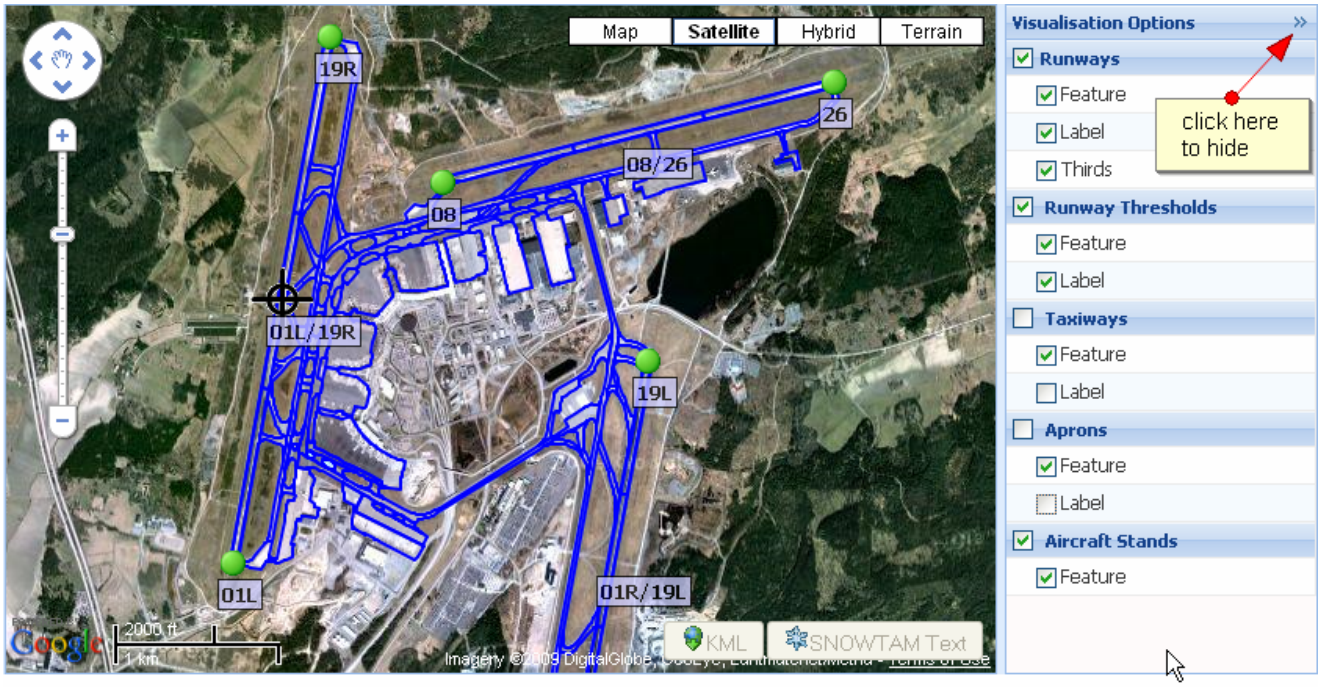


Figure 7 Visualization options panel

Each information category can be selected/deselected individually. In addition, all the categories of a feature can be selected/deselected at once using the feature check box.

Check a category (e.g. label in runway section) to show it, uncheck the category to hide it.
Check a feature (e.g. runway) to show all the corresponding categories, uncheck the feature to hide them.

Click on the icon in upper right corner of the panel to show/hide it. Hiding the panel allows for saving a significant area of the screen

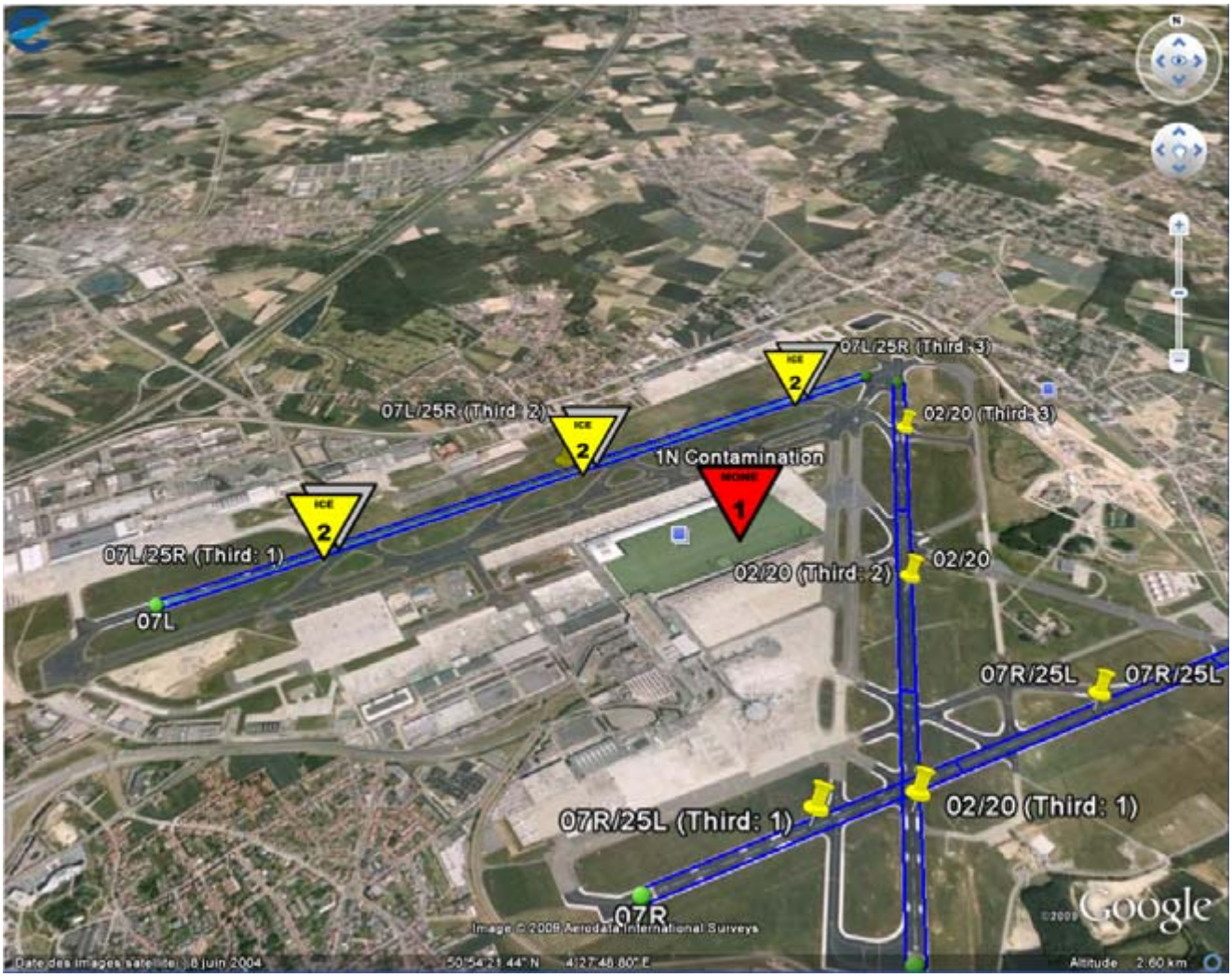


3.13 Viewing KML

When a SNOWTAM is available for the selected airport, the application allows downloading a KML export of the airport features and contaminations.

This KML file can be opened in Google Earth to display a three dimensional view of the airport.

Note: once opened in another application, the data contained in the file is totally detached. Editions made to the data in third party applications won't be imported in the Digital SNOWTAM application in any way.



4 Data sets

The Digital SNOWTAM Application relies on multiple data sets.

4.1 Static data / baselines from EAD

The static data about airport features is exported from EAD/SDO in AIXM 4.5 format and is converted and imported in the application in AIXM 5.1 format.

The following features are available:

- Airport/heliports
- Runways
- Runway directions
- Runway centreline points (thresholds)
- Taxiways
- Aprons
- Aircraft stands

These features are regularly and automatically updated trough the EAD/ESI/ENA connection. It is not modifiable through the application.

Runway geometries are computed using the two thresholds.

4.2 Geometric data from AMDB

Feature geometries in AMDB format can be uploaded in the application. AMDB provides precise geometries for the following features:

- Runways (through runway elements)
- Taxiways (through taxiway elements)
- Aprons (through apron elements)

Runway geometries uploaded from AMDB will always have priority over geometries computed with threshold points.

AMDB files must be sent to EUROCONTROL via email. Validity tests against the features already available in the database will be run before the file can be uploaded.

EUROCONTROL will take care of the whole processing.

4.3 EAD SNOWTAM Messages

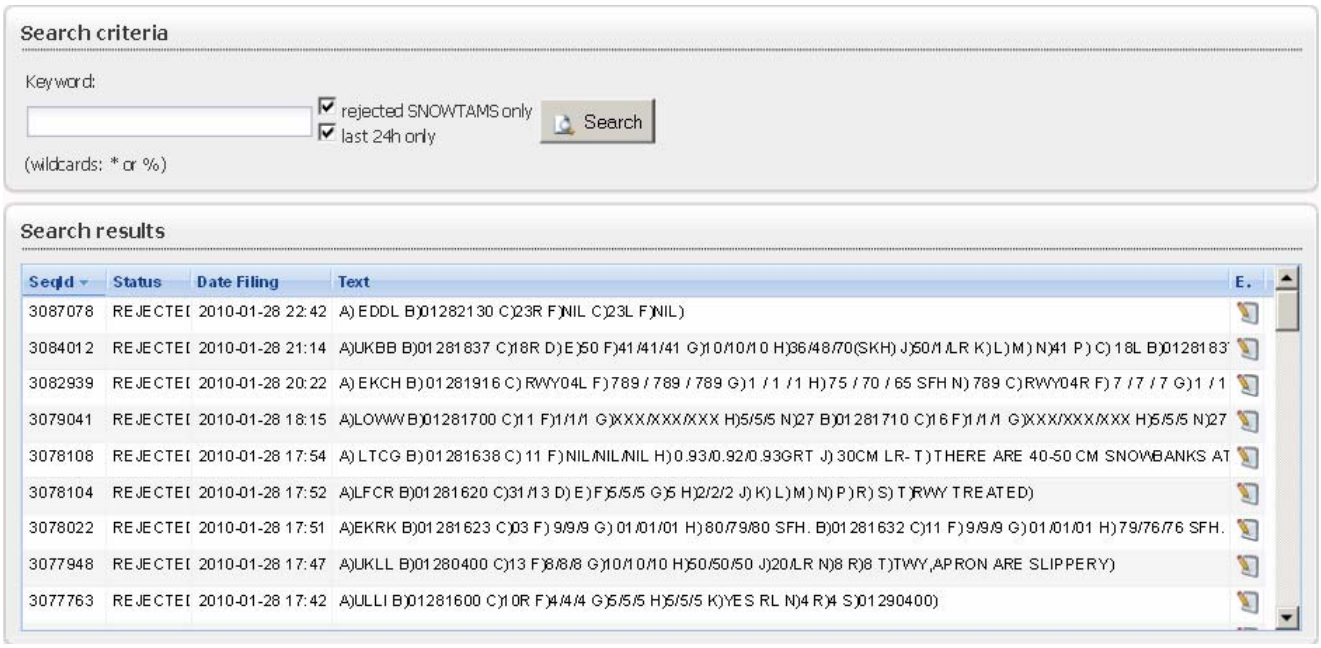
The application regularly and automatically receives ICAO SNOWTAM messages through EAD/INO and converts them into valid surface contaminations as soon as they are available.

The converter uses a set of rules to validate and translate SNOWTAM messages. This set of rules takes the ICAO Annex 15 – Annex II and many common variations into account.

Despite the relative flexibility of the import tool, some SNOWTAM messages might be rejected. They will still be available in the application for further processing and fixing, but their contaminations won't be processed or available in the application. See 4.4 for additional information.

4.4 Manage rejected SNOWTAMs

As Data User, you also have access to the "Rejected SNOWTAMs" screen, which allows you to fix any errors that prevented the EAD SNOWTAM Messages to be automatically processed by the application.



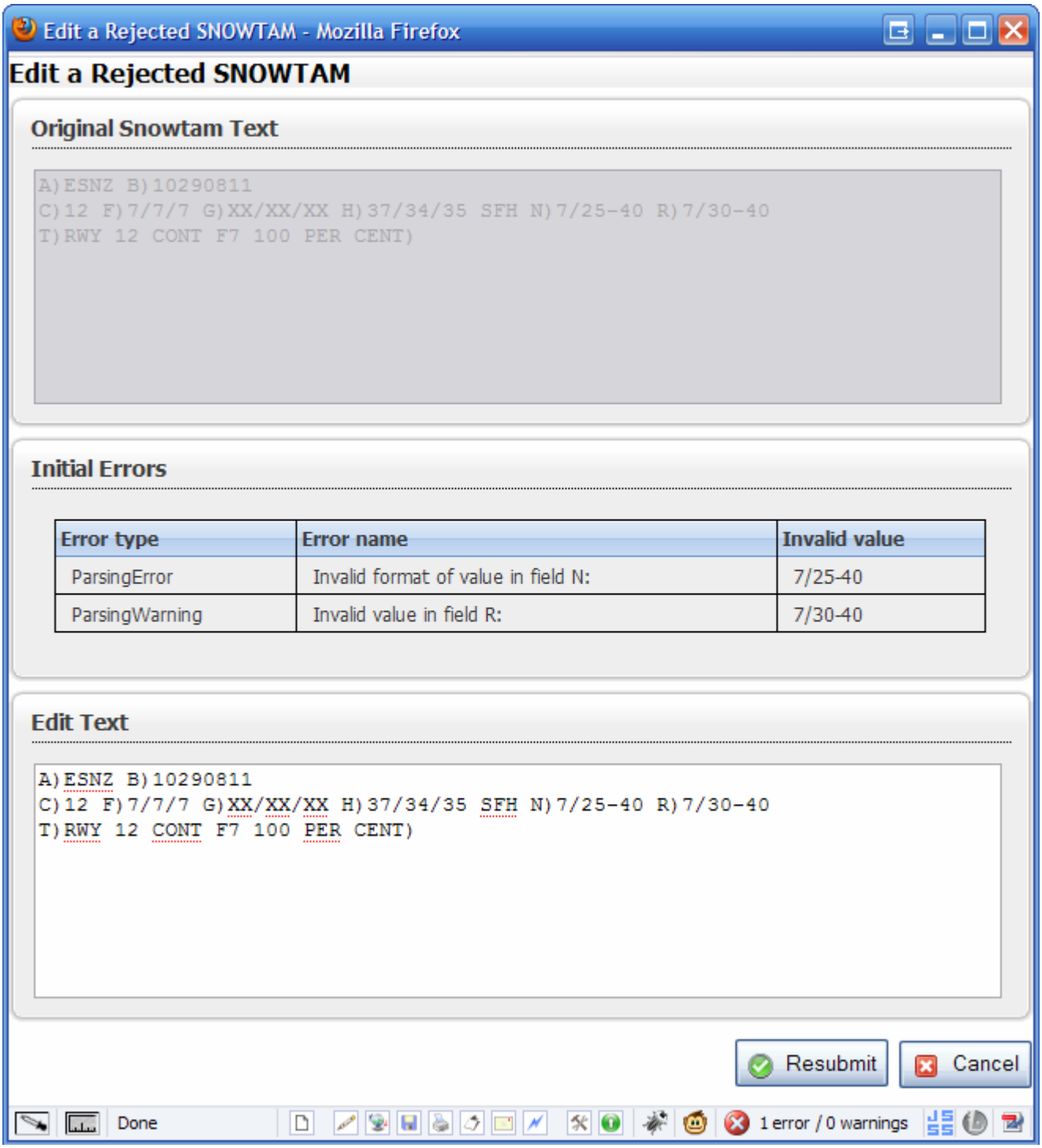
Click on the icon or double-click on a grid row to open the "Edit rejected SNOWTAM" popup for the corresponding SNOWTAM message.

4.4.1 Search criteria

By default only rejected SNOWTAM messages that have been received in the last 24 hours are displayed. It is however possible to display all SNOWTAM messages by unchecking the "rejected SNOWTAMS only" or the "last 24 h only" checkboxes

It's also possible to limit the list to SNOWTAMS containing a specific keyword entered in the "Keyword" field (this is a full text search). For example, the following search string will display only the SNOWTAM messages rejected on 05 January, using the content of B field as filter criteria: "%B)%0105%"

4.4.2 Editing a SNOWTAM Message



The screen is divided into three sections.

The "**Original SNOWTAM Text**" contains the SNOWTAM Message as it was received from EAD or previously resubmitted within the application. The field is read only as it serves only as a reference for the edited text.

Initial Errors are validation messages generated by the parsing of the SNOWTAM. The various types of errors are discussed in paragraph "4.4.4 Types of errors" below. Errors must be fixed; otherwise the SNOWTAM will be rejected again. Warning should be fixed, but this is not mandatory.

The "**Edit Text**" allows you to clean up the SNOWTAM Text before resubmitting it.

Guidelines for correcting Rejected SNOWTAM messages that have syntax errors are provided on the following Web site:

https://extranet.eurocontrol.int/http://prisme-oas.hq.corp.eurocontrol.int/aixmwiki_public/bin/view/Main/SNOWTAM+correction

When you click on the "Resubmit" button, the edited SNOWTAM text will be completely reprocessed, parsed and validated by the application.

The popup will close itself and the search results will be refreshed. The original SNOWTAM message will be given an "updated" status. If the new SNOWTAM contained errors, it will appear in the list with a "rejected" status.

Clicking on the "Cancel" button will close the popup without warning. Any modification made in the "Edit Text" section will be lost (nothing will be saved in database).

4.4.3 Statuses

SNOWTAM message may be in the following statuses:

- Rejected: the application was not able to process the message automatically
- Accepted: the message has been processed and converted to contaminations
- Updated: a rejected message has been fixed and replace by a newer version by using the application

4.4.4 Types of errors

Problems encountered during automatic parsing of EAD SNOWTAMS can be of the following types:

- ParsingWarnings
- ParsingErrors
- ConversionErrors

ParsingErrors happen when the application is not able to parse the SNOWTAM due to erroneous syntaxes..

ParsingWarnings spot deviations from ICAO standard or values that cannot be understood correctly by the application, but that do not prevent it to process the SNOWTAM. Messages with Warnings only are not rejected and are available as usual in the Airport Overview and Airport Map pages.

ConversionErrors happen when syntactically valid SNOWTAM messages refer to unknown features (runways, airports,...)

E**rrors** prevent the application from handling the SNOWTAM message, which will then be rejected.

A SNOWTAM containing only **warnings** will be processed normally by the application. Note however that some information it contains could be generalized. For example unreadable information

about taxiways could be put at the airport level during the creation of contaminations. The information is not lost, but is available at a higher level.

4.5 Local Contaminations

In addition to EAD SNOWTAM messages, the application also supports local contaminations.

During the trial, local contaminations can be provided by local airport authorities and/or NOTAM offices. This will allow data providers to encode test data directly within the application, with the help of wizards and graphical editing capabilities.

Local contaminations can coexist with EAD contaminations, as they are both considered as completely separate data sets. In other words, local and EAD contaminations won't impact each other. This will allow, for example, to use the application to encode and generate an ICAO SNOWTAM draft and compare it with the official SNOWTAM issued by the same authority.

5 Symbols and Graphical Representations

Aeronautical experts have investigated the existence of civil, military and other industry conventions and standards that provide requirements or guidelines for the graphical representation of the surface contamination status.

5.1 Features

Features for which geometries are available are displayed graphically on a map. Both features represented by a surface and features represented by a point are supported.

Airport features represented by a surface are displayed using an outlined blue polygon (the shape is not filled). This is the case for runways, taxiways and aprons.

Airport features represented by a point (aircraft stands, thresholds...) are displayed using an icon depending on their type.

5.1.1 Airport Reference Point

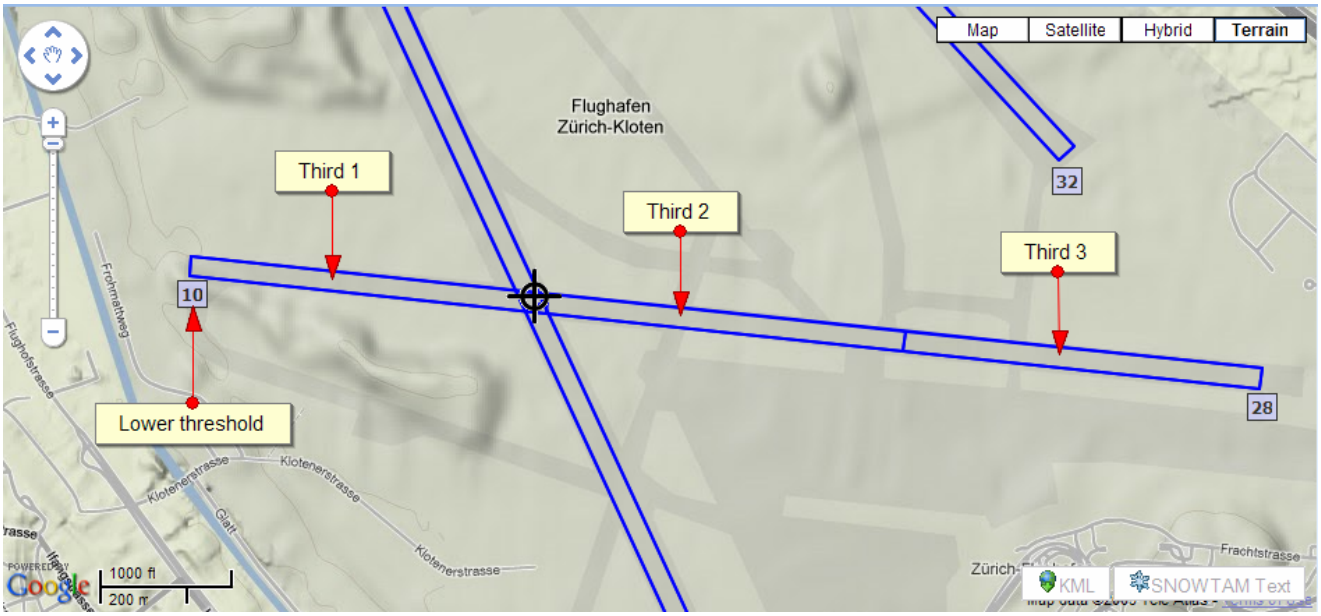
The airport reference point is displayed using the usual ICAO symbol:

The graphical visualization of SNOWTAM messages and contaminations relies heavily on features geometries. If no geometries are available, a warning shall be displayed under the reference point.

5.1.2 Runways

Runways are displayed as outlined blue polygons.

In order to be compliant with ICAO Annex 15 – Appendix 2 and OPADD document for the encoding of contaminations and SNOWTAM messages, runways are divided into *thirds*. The thirds are numbered from the lower runway designator / threshold:



When no AMDB data is available, runway geometries are computed by using the two threshold point's coordinates and the published runway width. So, at the very least, runway thresholds should be available in EAD to be able to visualize runways.

It may happen that, for some airports, the runway geometry doesn't match the picture of the runway on the map:

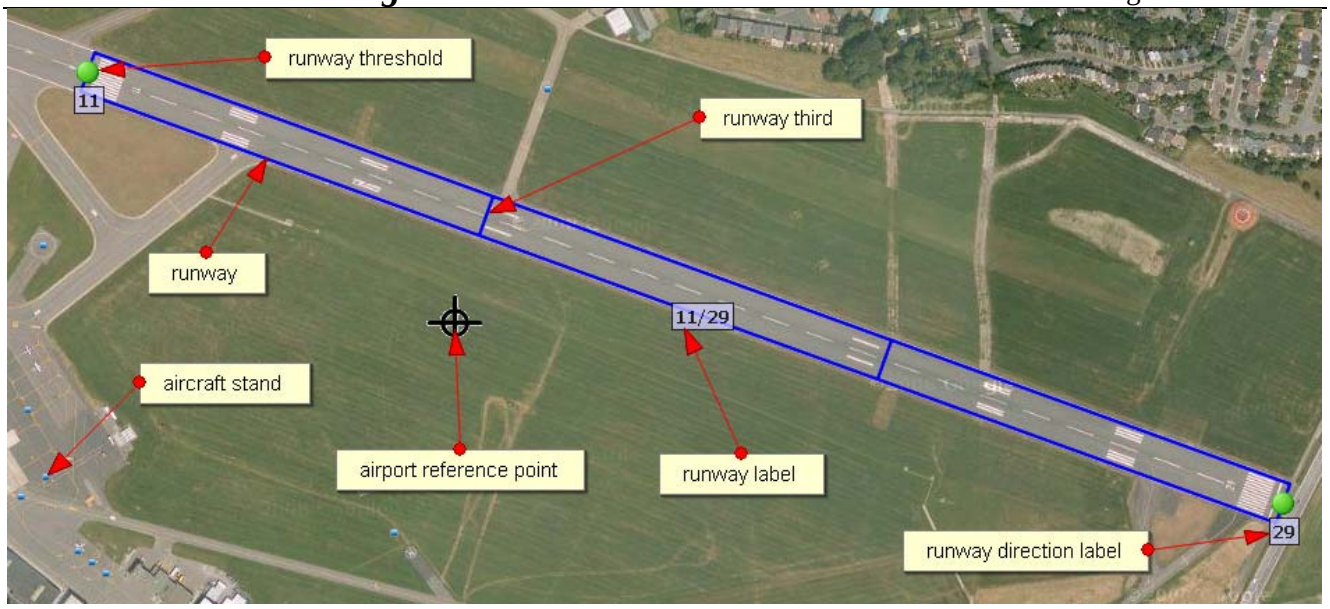
This may be due to:

- An incorrect GoogleMap image
- Wrong threshold coordinates or displaced thresholds
- An incorrect runway width in EAD
- No runway width (in which case a default value of 45 meters is used)
- No threshold and no AMDB data available (in which case the application can't display the runway)
- Maps of type 'Terrain' and 'Map' may be less precise than the satellite map (and thus the displayed picture may appear shifted)

If needed, the information can be corrected or completed in EAD and sent as an update, which the application will take into account automatically.

Here's a sample representation of a runway, displaying:

- The runway itself (the blue box)
- runway thirds
- runway thresholds
- runway label and threshold labels



5.1.3 Taxiways

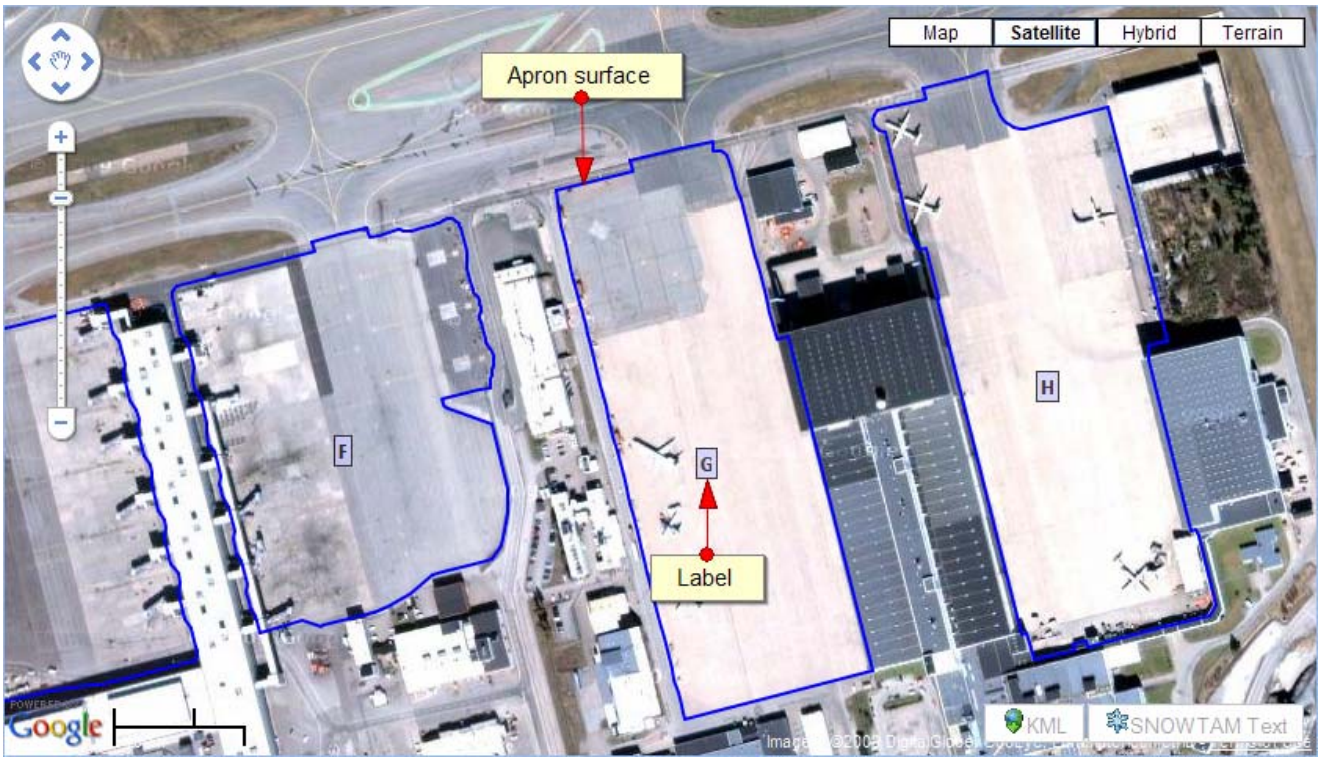
Taxiways are displayed as outlined blue polygons.

Here's a sample view of several taxiways on an airport:

Taxiway geometries are only available through AMDB data. If such data is available, send the AMDB file for the corresponding airport to EUROCONTROL in order to take advantage of this functionality.

5.1.4 Aprons

Aprons are displayed as an outlined blue polygon.



Apron geometries are only available through AMDB data. Send an AMDB file for the corresponding airport to EUROCONTROL in order to take advantage of this functionality (see chapter "4.2 Geometric data from AMDB" on page 33).

5.1.5 Aircraft Stands

Aircraft stands are displayed as blue dot shaped icons.

Here's a sample representation of some aircraft stands.

In order to avoid overloading the map, aircraft stands labels are not displayed as other feature labels. The labels with the stand designator are displayed when the mouse moves over a stand.

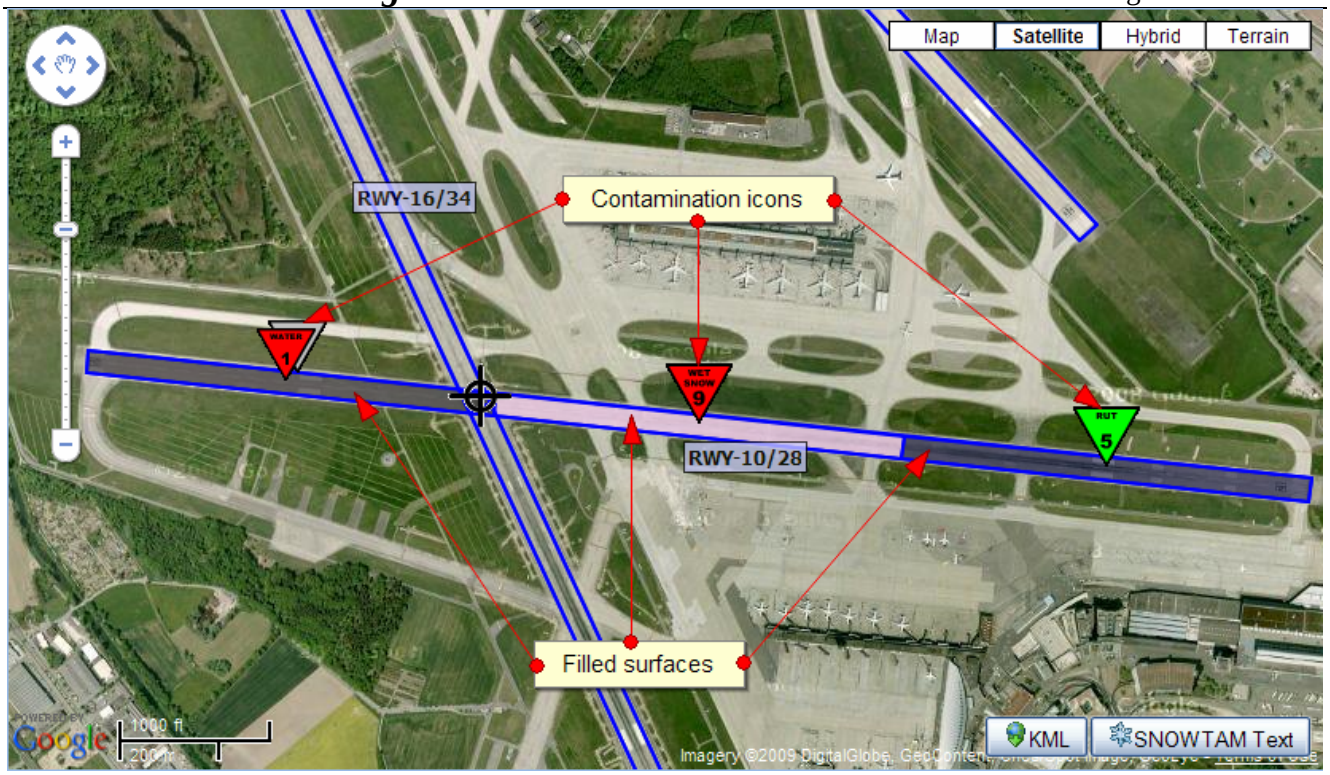
Aircraft stands are made available from EAD data.

5.2 Contaminations

Feature contaminations are displayed in two ways:

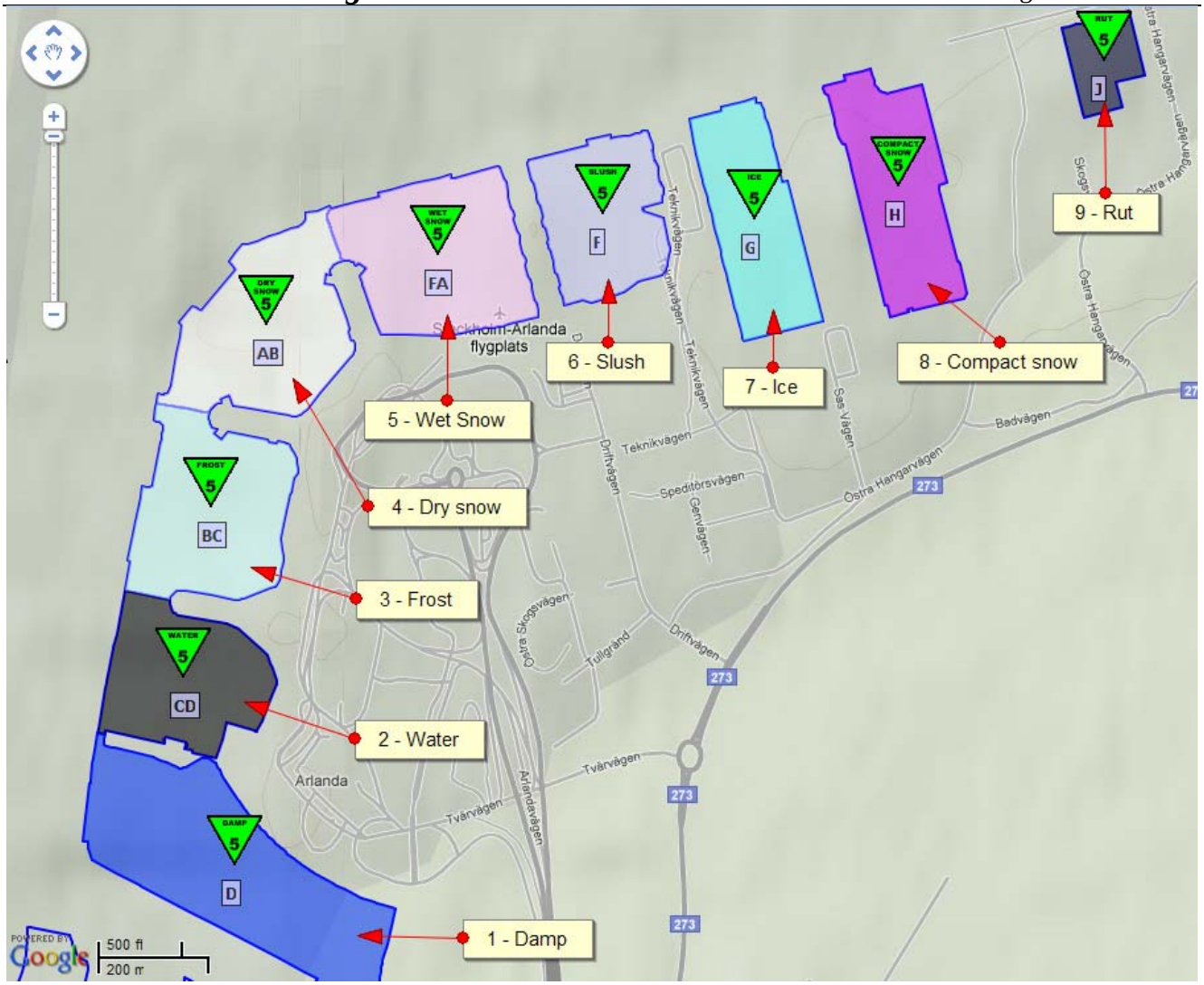
1. The **surface** of the feature is filled with a color corresponding to the contaminant of the upper layer

2. A color-coded and triangle shaped **icon** is placed on the feature, showing the most important information: the friction coefficient and the type of contaminant of the upper layer



5.2.1 Contamination surface

When features are contaminated, their surface is filled using a semi-transparent color which corresponds to the type of the upper most layer of contaminant:



While not displayed graphically, the other contaminants are still available in the view/edit dialogs in the application;

As an example, consider item F) of the following SNOWTAM message:

A)LSZH B)09280852 C)10 **F)27/5/9**

The 1st third of the runway is contaminated by water over ice (value **2**7), only the water layer is visible for this third

5.2.2 Contamination icon

The contamination icon carries the most important information about the contamination of the corresponding feature:

- Single or multiple layers
- Type of contaminant of the top layer
- Friction coefficient (textual number and color code)

It is meant to be a visual quick summary of the contamination.

5.2.2.1 Single and multiple layers

A single triangle is used when there is a single layer of contamination (one single contaminant):

Figure 8 Single layer contamination icon

When the contamination consists in multiple layers of contaminants, the icon is displayed as a double triangle.

Figure 9 Multiple layer contamination icon

Important notice: the number of triangles does NOT depict the number of layers.

5.2.2.2 Type of contaminant

The icon contains the denomination of the upper most contaminant (the top layer).

5.2.2.3 Friction coefficient

The friction coefficient (aka braking action) is displayed using the following two conventions:

A number (1-5 or 9)
A background color (red, yellow, green or gray)

The number always corresponds to the **estimated** friction coefficient; even if the actual value contained in the SNOWTAM or contamination is measured (the real coefficient is still available in the application). The application uses the same conventions as the ICAO SNOWTAM form (except for the color):

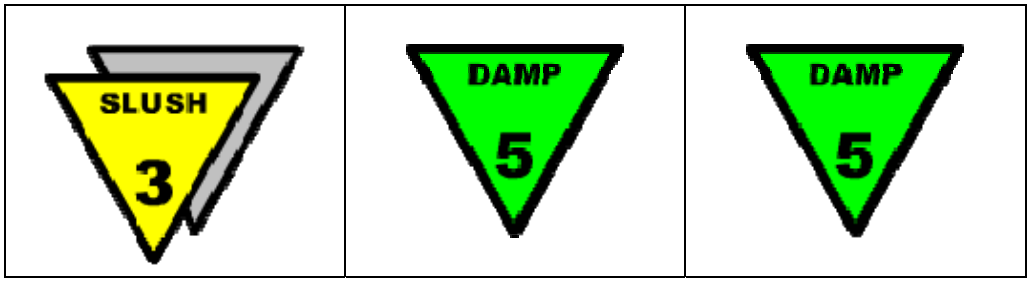
Measured Coefficient	Estimated friction		Color
0.40 and above	GOOD	5	Green
0.39 – 0.36	MEDIUM/GOOD	4	Yellow
0.35 – 0.30	MEDIUM	3	Yellow
0.29 – 0.26	MEDIUM/POOR	2	Yellow
0.25 and below	POOR	1	Red
9 – unreliable	UNRELIABLE	9	Red

Grey color is used when no coefficient is available. However, this should not happen.

As an example, consider the following SNOWTAM message:

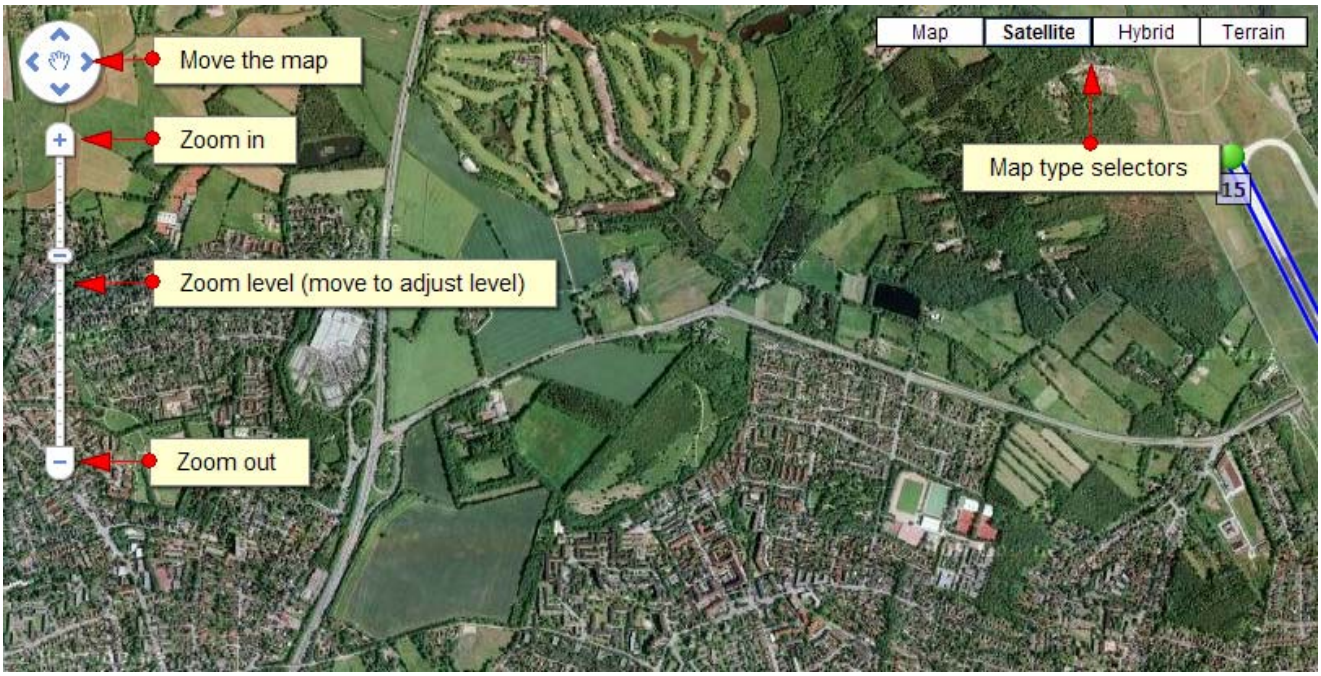
```
A) ENAT
B) 10290728 C) 11
F) 67/1/1 G) 4// H) 3/5/5
```

It will be displayed using the following icons:



6 Working with Google Maps

Here are a few condensed things to know about Google Map usage.



6.1 Moving the map

The map can be moved:

- By using the map control on the left (as explained in the screenshot)
- By using drag & drop (click on the map, keep the mouse button down and move the cursor to move the map).
- By using the arrows, [Page Up], [Page Down], [Home] and [Insert] keys on the keyboard

The map can also be centred on a specific place by double-clicking on the corresponding point on the map.

Clicking on the little hand icon in the map control will move the map back to the last known position.

> **Note**: In the Airport Map Page, the map can be centered on a feature by clicking on the corresponding feature in the textual feature list (provided that a geometry is available for that feature).

6.2 Zooming the map

The map can be zoomed in and out:

- By using the map control on the left (as explained in the screenshot)
- By using the mouse wheel (if your mouse has one)
- Use the [Insert] key to zoom out

A double-click anywhere on the map will centre it on the clicked point.

6.3 Choosing a map type

Choosing a map type is as easy as clicking on the select type in the upper-right corner of the map.

As map types add a real value to this application, they are further explained in chapter "3.5.4 Visualization Options" on page 21.

The application has the capability to retain the selected map type for next time the map is displayed.